

Rosefield Solar Farm

EIA Scoping Report

Volume 2
Appendices

November 2023



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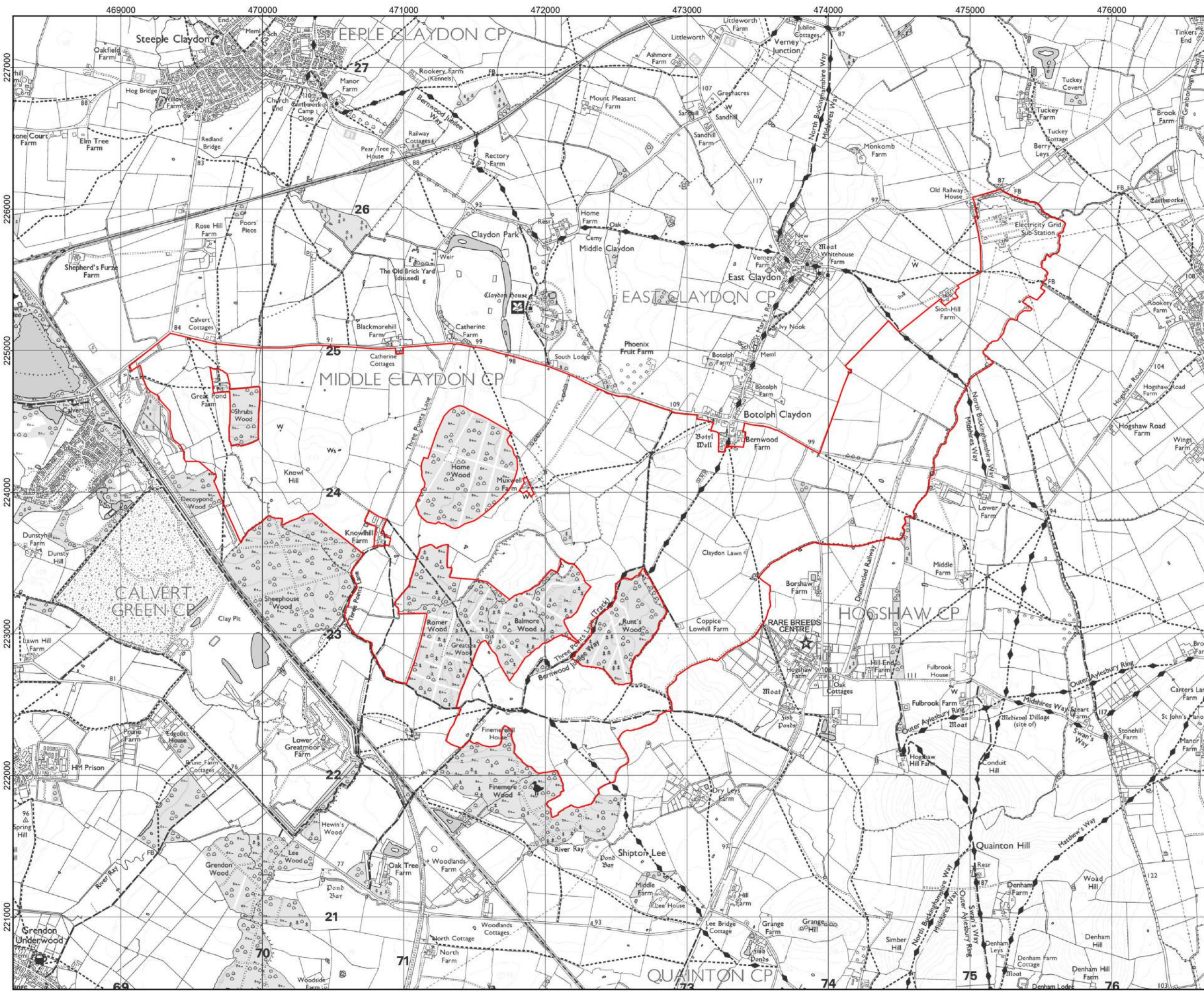
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Site Boundary





LEGEND:
 Site Boundary

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
01.2	03/11/2023	Final for Scoping	LDA	LDA	LDA
01.1	03/10/2023	First Draft	LDA	LDA	LDA

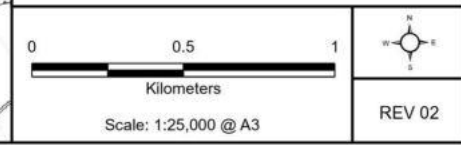
Rosefield Solar Farm



DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Appendix A
Site Boundary

FIGURE NUMBER:
Figure 1



Appendix B

Concept Masterplan





LEGEND:

- Site Boundary
- Existing woodland
- Existing hedgerows retained and enhanced
- Existing watercourses
- Existing power lines
- Existing Public Rights of Way
- Existing National Grid Substation
- Potential area for solar development and/or mitigation and enhancement
- Potential area for solar development, project substation and/or consolidated battery storage and/or mitigation and enhancement
- Potential area for Collector Compound(s)
- Potential area for mitigation and/or enhancement
- Area for underground cable routes, access tracks and temporary construction compounds (locations to be determined)

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
05	03/11/2023	Final for Scoping	LDA	LDA	LDA
04	01/11/2023	Final	LDA	LDA	LDA
03	31/10/2023	Final Draft	LDA	LDA	LDA
02	05/10/2023	Second Draft	LDA	LDA	LDA
01	03/10/2023	First Draft	LDA	LDA	LDA

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Appendix B
Concept Masterplan

FIGURE NUMBER:
Figure 1

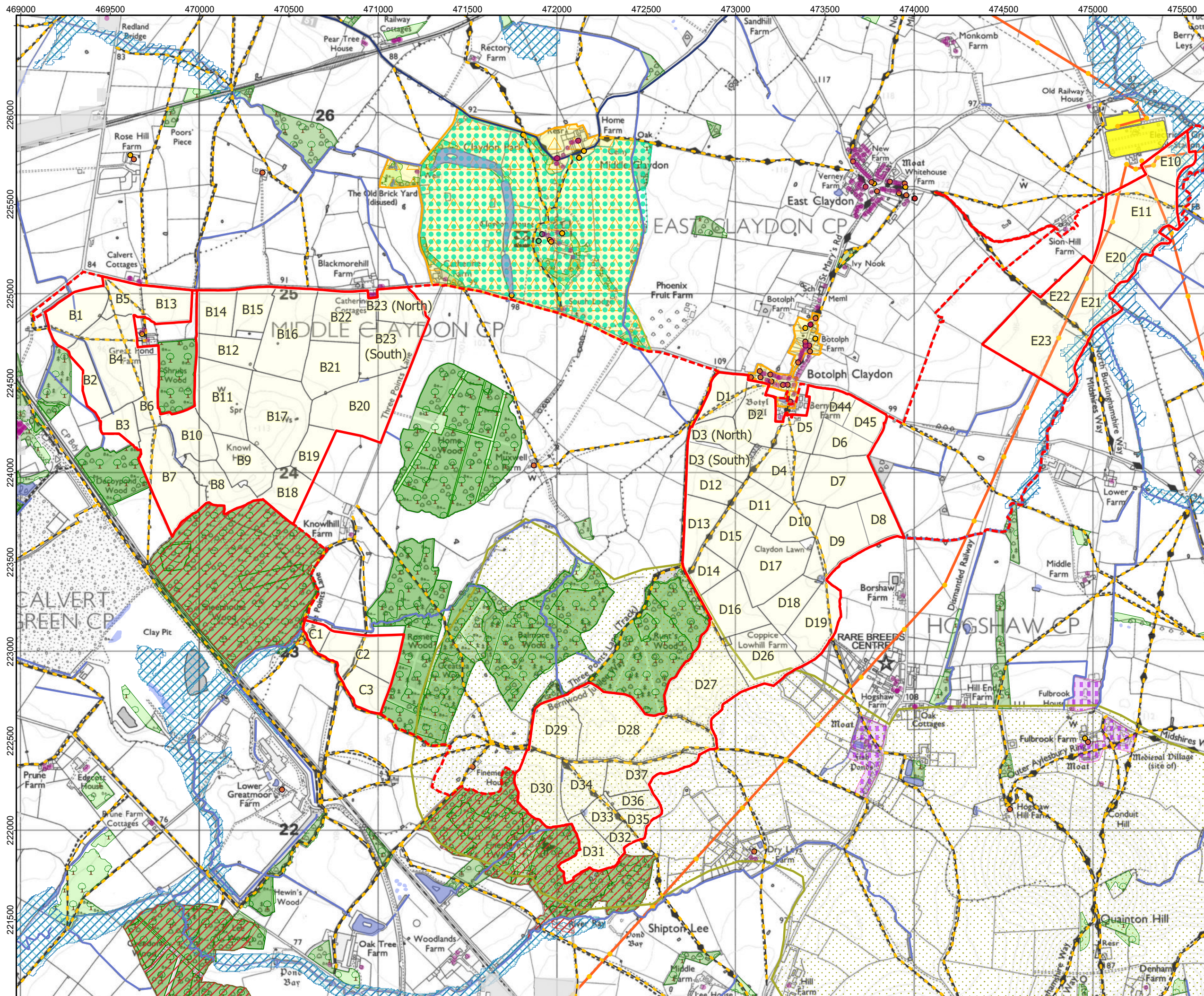
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REV 05

Appendix C

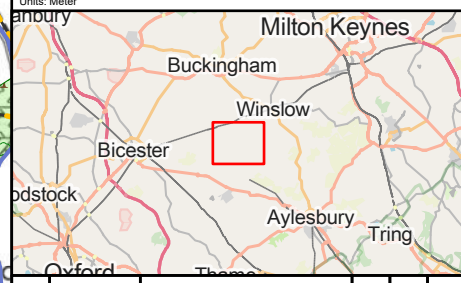
Environmental Features Plan





- Legend:**
- Site Boundary
 - Cable Search Corridor
 - B12 Field Referencing System
 - OS Built Up Areas
 - National Grid Substations
 - National Grid OHL
 - National Grid Towers
 - Public Rights of Way
 - National Cycle Network - On Road
 - Residential Properties
 - Area of Attractive Landscape
- Listed Buildings**
- Grade I
 - Grade II
 - Grade II*
 - Scheduled Monuments
 - Conservation Areas
 - Registered Parks and Gardens
 - Sites of Special Scientific Interest
 - Ancient Woodland
 - Forest Inventory 2020
 - Watercourses
 - Surface Water Bodies
 - Flood Zone 2
 - Flood Zone 3

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
03	02/11/2023	Revised Legend	FA	HH	JG
02	01/11/2023	Cable Search Corridor	FA	HH	JG
01	28/09/2023	Symbology	FA	HH	JG

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TITLE: Environmental Features Plan

ID: P663899_constraintsMin_A3L_Aug2023

0 0.35 0.7
Kilometres

Scale: 1:20,000 @ A3

REV 03

Appendix D

Significance Criteria



APPENDIX D – SIGNIFICANCE CRITERIA

Air Quality

The significance level attributed to each effect will be assessed based on the magnitude of change due to the Proposed Development and the sensitivity of the affected receptor.

Construction and decommissioning phase: dust and particulate matter emissions impact

The Institute of Air Quality Management (IAQM) ‘Guidance on the Assessment of Dust from Demolition and Construction’ criteria and methodology will be adopted to determine the sensitivity of the receptor and the magnitude of change.

Table D1 below sets out the general principles, along with professional judgement, that will be considered to determine the scale of sensitivity that will be applied to receptors identified and considered within the construction and decommissioning phase assessments.

Table D1: Construction and decommissioning phase assessments - scale of receptor sensitivity

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
High	<p>Users can reasonably expect an enjoyment of a high level of amenity.</p> <p>The appearance, aesthetics or value of their property would be diminished by soiling.</p> <p>The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal</p>	<p>Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Examples include residential properties, hospitals, schools</p>	<p>Locations with an international or national designation and the designated features may be affected by dust soiling.</p> <p>Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain.</p> <p>Examples include a Special Area of Conservation (SAC)</p>

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
	<p>pattern of use of the land.</p> <p>Examples include dwellings, museums and other culturally important collections, medium- and long-term car parks and car showrooms.</p>	<p>and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>	<p>designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.</p>
Medium	<p>Users would expect to enjoy a reasonable level of amenity but would not reasonably expect to enjoy the same level of amenity as in their home.</p> <p>The appearance, aesthetics or value of their property could be diminished by soiling.</p> <p>The people or property would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</p> <p>Examples include parks and places of work.</p>	<p>Locations where the people exposed are workers and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Examples include office and shop workers but will generally not include workers occupationally exposed to PM₁₀, as protection is covered by Health and Safety at Work legislation.</p>	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown.</p> <p>Locations with a national designation where the features may be affected by dust deposition.</p> <p>Example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.</p>
Low	<p>The enjoyment of amenity would not reasonably be expected.</p>	<p>Locations where human exposure is transient.</p>	<p>Locations with a local designation where the features may be</p>

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
	<p>Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling.</p> <p>There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.</p> <p>Examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short term car parks and roads.</p>	<p>Indicative examples include public footpaths, playing fields, parks and shopping streets.</p>	<p>affected by dust deposition.</p> <p>Example is a local Nature Reserve with dust sensitive features.</p>

Table D2 below presents the potential magnitude of change for dust emissions that will be used in undertaking the construction and decommissioning phase assessments. The descriptors included in this table are based upon the IAQM 'Guidance on the Assessment of Dust from Demolition and Construction'.

Table D2: Construction and decommissioning phase assessments - scale of magnitude for dust emission impacts

Activity	Magnitude	Description
Demolition	Large	Total building volume >75,000 m ³ , potentially dusty construction material (e.g., concrete), on-site crushing and screening, demolition activities >12 m above ground level.

Activity	Magnitude	Description
	Medium	Total building volume 12,000 m ³ – 75,000 m ³ , potentially dusty construction material, demolition activities 6 m – 12 m above ground level.
	Small	Total building volume <12,000 m ³ , construction material with low potential for dust release (e.g., metal cladding or timber), demolition activities <6 m above ground, demolition during wetter months.
Earthworks	Large	Total site area >110,000 m ² , potentially dusty soil type (e.g., clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >6 m in height.
	Medium	Total site area 18,000 m ² – 110,000 m ² , moderately dusty soil type (e.g., silt), 5 – 10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 6 m in height.
	Small	Total site area <18,000 m ² , soil type with large grain size (e.g., sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height.
Construction	Large	Total building volume >75,000 m ³ , on site concrete batching, sandblasting.
	Medium	Total building volume 12,000 m ³ – 75,000 m ³ , potentially dusty construction material (e.g., concrete), on site concrete batching.
	Small	Total building volume <12,000 m ³ , construction material with low potential for dust release (e.g., metal cladding or timber).
Trackout	Large	>50 HDV (>3.5 t) outward movements in any one day, potentially dusty surface material (e.g., high clay content), unpaved road length >100 m.
	Medium	20 – 50 HDV (>3.5 t) outward movements in any one day, moderately dusty surface material (e.g., high clay content), unpaved road length 50 – 100 m.
	Small	<20 HDV (>3.5 t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50 m.

The sensitivity of receptor and magnitude of change will then be combined using the significance matrix as detailed in **Table D3** below to determine the potential risks from emissions from unmitigated demolition, earthworks, construction and trackout activities, which will be used to recommend site-specific mitigation measures. The classification of risk is based upon the IAQM ‘Guidance on the Assessment of Dust from Demolition and Construction’.

Table D3: Construction and decommissioning phase assessments - risk classification of unmitigated impacts

Sensitivity of Area		Dust Emission Magnitude		
		Large	Medium	Small
Demolition	High	High Risk	Medium Risk	Medium Risk
	Medium	High Risk	Medium Risk	Low Risk
	Low	Medium Risk	Low Risk	Negligible
Earthworks	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible
Construction	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible
Trackout	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Low Risk	Negligible
	Low	Low Risk	Low Risk	Negligible

Construction and decommissioning phase: traffic exhaust emissions impact

The significance of effects of exhaust emissions arising from vehicles during construction and decommissioning will be evaluated qualitatively using professional judgement and the principles of the EPUK/IAQM ‘Land-Use Planning & Development Control: Planning for Air Quality’ significance criteria. **Table D4** presents the EPUK-IAQM guidance screening criteria for when an air quality assessment might be required. If none of the criteria are exceeded, it is considered unlikely that there will be any significant effects on air quality.

Table D4: Air quality screening criteria from EPUK-IAQM 2017 guidance

The Development will...	Indicative Criteria to Proceed to an Air Quality Assessment
Cause a significant change in Light Duty Vehicle (LDV)	A change of LDV flows of:

The Development will...	Indicative Criteria to Proceed to an Air Quality Assessment
traffic slows on local roads with relevant receptors.	<ul style="list-style-type: none"> more than 100 AADT within or adjacent to an AQMA. more than 500 AADT elsewhere.
Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors.	<p>A Change of HDV flows of:</p> <ul style="list-style-type: none"> more than 25 AADT within or adjacent to an AQMA. more than 100AADT elsewhere.
Realign roads, i.e., changing the proximity of receptors to traffic lanes.	Where the change is 5 m or more and the road is within an AQMA.
Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate / decelerate e.g., traffic lights, or roundabouts.
Introduce or change a bus station.	<p>Where bus flows will change by:</p> <ul style="list-style-type: none"> more than 25 AADT within or adjacent to an AQMA. more than 100AADT elsewhere.
Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).
Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.	<p>Typically, any combustion plant where the single or combined NO_x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion.</p> <p>In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.</p>

Biodiversity

The determination of ecologically significant effects for ecological impact assessment (EclA), as discussed below, is taken from 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (Chartered Institute of Ecology and Environmental Management (CIEEM), 2018)

For the purpose of EclA, a significant effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. It is a positive or negative effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales, from international to local.

A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects have been lawfully permitted following EIA procedures. Significant effects should be qualified with reference to an appropriate geographic scale. For example, a significant effect on a Site of Special Scientific Interest is likely to be of national significance. European case law is specific regarding significance in relation to European sites and Annexed habitats. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example, an effect on a species which is on a national list of species of principal importance for biodiversity may not have a significant effect on its national population. Examples of other relevant scales include regional and county. It should be noted that effects may be significant at the local scale, particularly in view of policies for no net loss of biodiversity.

When seeking mitigation and/or compensation solutions, efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and/or compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

Determining ecologically significant effects

Designated/defined sites and ecosystems

The frames of reference used to describe the importance of each receptor, which are based on the CIEEM Guidelines, are as follows:

- International (i.e. Ramsar Sites, SACs and SPAs) (normally within the geographic area of Europe);
 - UK or national (Great Britain but considering the potential for certain ecological features/receptors to be more notable (of higher importance) in England, with context relative to Great Britain as a whole).
 - Regional;
 - County;
-

- District; and
- Local (i.e. within approximately 5km of the Site Area).

Significant effects encompass impacts on the structure and function of defined sites and ecosystems. The following need to be determined:

- For designated sites – is the project and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features?
- For ecosystems – is the project likely to result in a change in ecosystem structure and function?

Consideration should be given to whether:

- Any processes or key characteristics will be removed or changed
- There will be an effect on the nature, extent, structure and function of component habitats
- There is an effect on the average population size and viability of component species.

Consideration of functions and processes acting outside the formal boundary of a designated site is required, particularly where a site falls within a wider ecosystem e.g. groundwater dependent terrestrial ecosystems can be damaged where the proposed activity impacts on the quantity or quality of groundwater that feeds these habitats. Predictions should always consider wider ecosystem processes.

Many ecosystems have a degree of resilience to perturbation that allows them to tolerate some biophysical change. Ecological effects should be considered in light of any information available or reasonably obtainable about the capacity of ecosystems to accommodate change.

Habitats and species

Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

In many cases (e.g. for species and habitats of principal importance for biodiversity), there may be an existing statement of the conservation status of a feature and objectives and targets against which the effect can be judged. However, not all species or habitats will be described in this way and the conservation status of each feature being assessed may need to be agreed with the relevant statutory nature conservation body and set out in the EclA. The conservation status of a habitat or species will vary depending on the geographical frame of reference.

When assessing potential effects on conservation status, the known or likely background trends and variations in status should be taken into account. The level of ecological resilience or likely level of ecological conditions that would allow the population of a species or area of habitat to continue to exist at a given level, or continue to increase along an existing trend or reduce a decreasing trend, should also be estimated.

Precautionary principle

The evaluation of significant effects should always be based on the best available scientific evidence. If sufficient information is not available, further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect should be assumed. Where uncertainty exists, it must be acknowledged in the EclA.

Climate

Given the international urgency of climate change, the sensitivity of the receptor (i.e., global climate) to fluctuations in greenhouse gas emissions is considered ‘Very High’. Thus, the level of the significance of effects is determined by the magnitude, and timing, of greenhouse gas emissions and the likelihood of avoiding severe climate change.

Aligned with IEMA’s Guide ‘Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition’ (February 2022), any project that causes greenhouse gases to be avoided, or removed from the atmosphere, has a beneficial effect that is always significant (**Table D5**). In such a scenario, the project substantially exceeds the national net zero requirements and is thus aligned with the goal of the Paris Agreement to limit temperature rise to well below 2°C, aiming for 1.5°C.

The significance of the GHG impacts of Proposed Development on the climate will be determined by assessing the magnitude of emissions against the Local Authority’s pro-rated carbon budget. The UK carbon budgets are only currently available to 2037 (6th carbon budget, 2033 – 2037); where carbon budgets are not available for certain assessment periods, a qualitative approach will be taken.

The renewable electricity from the Proposed Development is directly replacing that generated by fossil-fuel energy. Consequently, the GHG emissions savings from the operation of the Proposed Development will be assessed based upon a comparison of operational emissions per kWh energy generation against those from a gas-fuelled power station.

Table D5: Framework for assessment of significant effects

Significance	Level	Criteria
Significant	Major adverse	Project adopts a business-as-usual approach, not compatible with the national Net Zero trajectory, or aligned with the goals of the Paris Agreement (i.e., a science-based 1.5°C trajectory). Greenhouse gas

Significance	Level	Criteria
		impacts are not mitigated or reduced in line with local or national policy for projects of this type.
	Moderate adverse	Project's greenhouse gas impacts are partially mitigated, and may partially meet up-to-date policy; however, emissions are still not compatible with the national Net Zero trajectory or aligned with the goals of the Paris Agreement.
Not significant	Minor adverse	Project may have residual emissions, but the project is compatible with the goals of the Paris Agreement, complying with up-to-date policy and good practice.
	Negligible	Project has minimal residual emissions and goes substantially beyond the goals of the Paris Agreement, complying with up-to-date policy and best practice.
Significant	Beneficial	Project causes greenhouse gas emissions to be avoided or removed from the atmosphere, substantially exceeding the goals of the Paris Agreement with a positive climate impact.

Cultural Heritage

Importance of heritage assets

The importance of a heritage asset is a measure of the degree to which the heritage significance of that asset is sought to be protected through legislation and planning policy. The level of importance will therefore reflect any statutory and non-statutory heritage designation or, in the case of undesignated assets, the professional judgement of the assessor, as to the degree of importance that the asset has with reference to regional research frameworks.

The criteria presented in **Table D6** will be used to establish the importance of heritage assets. In the absence of directly applicable English guidance, these criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland.

Table D6: Criteria for establishing importance of heritage assets

Importance	Description of receptors
Very High	World heritage sites; assets of acknowledged international importance; assets that can contribute significantly to acknowledged international research objectives; Historic landscapes of international value (designated or not) and extremely well preserved historic landscapes with exceptional coherence, time depth or other critical factor(s).
High	Scheduled monuments and non-designated assets of schedulable quality and importance; Grade I and II* listed buildings and Grade II listed buildings that can be shown to have exceptional qualities in their fabric or associations; Conservation Areas with exceptional qualities; non-designated structures of clear national importance; designated and non-designated historic landscapes of historic interest; assets that can contribute significantly to acknowledged national research objectives.
Medium	Grade II listed buildings; Non-designated assets that contribute to regional research objectives; Locally listed buildings and other historic unlisted buildings that have exceptional qualities; Conservation Areas.
Low	Non-designated assets of local importance including those compromised by poor preservation; assets of limited value but with the potential to contribute to local research objectives; robust non-designated historic landscapes.
Negligible	Assets with very little surviving archaeological interest; buildings of little architectural or historic note; landscapes with little historic interest.

Magnitude of impact

The magnitude of impact will reflect the scale of change which would be caused by the Proposed Development and the effect this would have on ability to interpret significance and appreciate the historic asset. Impacts can result either from physical changes to the fabric of a historic asset or through sensory changes within its setting.

An impact may be positive where, for example, as part of the Proposed Development, an intrusive building or feature is removed or replaced with a more harmonious one; historic features are restored or revealed; a new feature is added which adds to public appreciation; new views are introduced that add to public experience of an asset; or public interpretation or access is improved to an asset or its setting.

Impacts may impart major change, for example where groundworks completely destroy important archaeological remains, to minor change to part of a historic assets' setting, leading to a limited impact on our ability to interpret it, or its context.

Utilising the key principles for assessing the implications of change outlined above, an assessment of the magnitude of impact will be implemented for each baseline heritage asset using the criteria presented in **Table D7** below. In the absence of directly applicable English guidance, these criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland.

Conclusions of the assessed magnitude of impacts are a product of the consideration of the elements of an asset and its setting that contribute to its heritage significance and the degree to which the Proposed Development would change these contributing elements. The assessment therefore reflects the varying degrees of sensitivity of different assets to change brought about by different types of development.

Table D7: Criteria for classifying magnitude of impact

Impact Magnitude	Criteria
Major	Change to key historic building elements so that an asset is totally altered; OR change to most/all key archaeological materials such that the resource is totally altered; OR comprehensive change to the setting such that the significance of the asset is severely compromised.
Moderate	Change to many key historic building elements, such that the asset is significantly modified; changes to many key archaeological materials such that the resource is clearly modified; changes to setting of an asset, such that the significance of the asset is compromised.
Minor	Change to key historic building elements, such that the asset is slightly different; changes to key archaeological materials such that the asset is slightly altered; changes to setting of an historic building, such that its significance is slightly compromised.
Negligible	Very minor changes to historic building elements, archaeological materials or setting that hardly affect them/it.
No Change	No change to fabric, archaeological materials or setting.

Significance of effect

The assessment of effects will combine analysis of the data gathered during the desk-based assessment and site visit, photographs and any wireframe visualisations of the topography and Proposed Development.

These assessments will be carried out using professional judgement, taking into account designations and heritage significance as assessed against national standards. Significance of effect will be based on a combination of importance of the asset (sensitivity) and the magnitude of impact upon that asset (receptor). The significance of effect matrix is presented in **Table D8** below and provides a guide to decision-making but is not a substitute for professional judgement and interpretation,

particularly where the importance or impact magnitude levels are not clear or are borderline between categories. The significance of effect may be described on a continuous scale from ‘No effect’ to ‘Major’. In the absence of directly applicable English guidance, these criteria have been derived from the guidance produced by Scottish Natural Heritage and Historic Environment Scotland.

Major and Moderate effects are regarded as significant, while Minor and Negligible effects are not significant.

Table D8: Criteria for assessing the significance of effect

Magnitude of Impact	Importance				
	Negligible	Low	Medium	High	Very High
Major	Minor	Moderate	Moderate	Major	Major
Moderate	Negligible	Minor	Moderate	Moderate	Major
Minor	Negligible	Negligible	Minor	Minor	Moderate
Negligible	Negligible	Negligible	Negligible	Minor	Minor
No Change	No effect	No effect	No effect	No effect	No effect

Landscape and Visual

The Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3) are widely recognised as the primary source of guidance for Landscape and Visual Impact Assessment (LVIA) in the UK but clearly state that:

“The guidance concentrates on principles while also seeking to steer specific approaches where there is a general consensus on methods and techniques. It is not intended to be prescriptive, in that it does not provide a detailed ‘recipe’ that can be followed in every situation. It is always the primary responsibility of any landscape professional carrying out an assessment to ensure that the approach and methodology adopted are appropriate to the particular circumstances.” (paragraph 1.20)

GLVIA 3 also states that: *“professional judgement is a very important part of the LVIA”* (paragraph 2.23) and that *“in all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others.”* (paragraph 2.24).

It goes on to state that *“there are no hard and fast rules about what effects should be deemed significant but LVIA should always distinguish clearly between what are considered to be the significant and non-significant effects.”* (paragraph 3.32)

Landscape and visual assessments are separate, though linked processes which GLVIA3 notes are *“related but very different considerations”*. The assessment of the potential effect on the landscape is carried out as an effect on the environmental



resource (i.e., the landscape). Visual effects are assessed as an inter-related effect on people.

In accordance with GLVIA3, the significance of landscape effects is determined by combining judgements regarding the sensitivity of the receiving landscape and the magnitude of the landscape effects arising from the Proposed Development.

In accordance with GLVIA3, the significance of visual effects is determined by combining judgements regarding the sensitivity of visual receptors (people who view the landscape) and the magnitude of the change they experience arising from the Proposed Development.

Landscape sensitivity

As stated in GLVIA3, '*LVIA sensitivity is similar to the concept of landscape sensitivity used in the wider arena of landscape planning, but is not the same*'. In LVIA, landscape **sensitivity** is assessed by combining judgements about the value attached to a landscape and its susceptibility to the type of change and nature of the development proposed. The overall sensitivity of the landscape to a particular development is described as High, Medium or Low.

- **Landscape value** varies in relation to the different stakeholders and different parts of society that use or experience a landscape. It reflects the importance attached to a landscape. Sometimes it is used as a basis for designation or recognition which expresses national or local authority consensus, because of its special qualities/attributes. Although factors such as formal designations are an important component when determining landscape value, other aspects are also considered as part of the judgement process, as explained in Landscape Institute Technical Guidance Note 02-21: Assessing Landscape Value Outside National Designations. These include issues related to natural and cultural heritage (for example ecological, geological or heritage matters), landscape condition, associations (in terms of connections with people, arts or events), distinctiveness (i.e., a sense of unique identity in the landscape), recreational opportunities, perceptual aspects (including scenic quality, wildness and tranquillity) and landscapes with a clearly identifiable role or function. In the LVIA, the value attributed to the landscape will be described as: National, Regional, or Community.
- **Landscape susceptibility** according to GLVIA3 means "*the ability of the landscape receptor to accommodate the proposed Development without undue consequences for maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies*" (paragraph 5.40). The susceptibility of the landscape varies depending on the type of development proposed and the particular site location. Judgements on landscape susceptibility include references to both the physical and aesthetic characteristics and the potential scope for mitigation. In the LVIA, the susceptibility of the landscape will be described as: High, Medium or Low.

The criteria and the detailed judgements regarding susceptibility and value of landscape receptors will be set out in the LVIA.

Sensitivity is judged taking into account the component judgments about the value and susceptibility of the receptor as illustrated by **Table D9** below. Where sensitivity is judged to lie between levels, an intermediate assessment will be adopted.

Table D9: Landscape sensitivity criteria

Value	Susceptibility		
	High	Medium	Low
National	High	High/medium	Medium
Regional	High/Medium	Medium	Medium/Low
Community	Medium	Medium/Low	Low

Magnitude of landscape change

The **magnitude** of change arising from the Proposed Development at any particular location is assessed in terms of its '*size or scale, geographic extent of the area or receptor that is influenced and its duration and reversibility*' (paragraph 5.48).

Judgements concerning the **scale** of the change take account of:

- Degree of loss or alteration to key landscape features/elements; characteristics; and for designated areas – special qualities and/or purposes of designation.
- Distance from the Proposed Development.
- Landscape context to the Proposed Development.

The approach to assessing effects on landscape character is to consider the key characteristics for the Landscape Character Area (LCA) within which the Proposed Development is located (the host LCA) and if relevant the adjacent LCAs (non-host) and identify which of these the Proposed Development would affect. A large-scale change in landscape character is likely to occur where key characteristics would be lost or substantially changed. A small-scale change is likely to occur where key characteristics are altered to a lesser degree and this can be influenced by distance and surrounding context.

Where particular views are a key characteristic of a LCA, large or medium scale landscape character effects may occur where the Proposed Development becomes a key feature of those views. A similar approach applies to designated landscapes, for which the effects on the defined purposes of designation and special qualities are considered.

The scale of landscape change is described as: Large, Medium or Small.

Having established the scale of change to the landscape baseline, the **geographic extent** of the change can be identified and is described as: Wide, Intermediate, Localised or Limited.

Duration and reversibility can be linked depending on the nature of the development. Reversibility is a judgement about the practicality of reversing the landscape effects of

the proposed development (for example, solar farms are ultimately largely reversible whilst housing is permanent). Duration reflects how long the change will last. In the LVIA, the duration of the change will be considered:

- short term when lasting less than 2 years
- medium term when lasting between 2 and 10 years
- long term when lasting between 10 and 40 years
- permanent for more than 40 years.

Magnitude is considered taking into account the three contributory factors, as illustrated by the diagrams presented in **Figure D1** below.

Visual sensitivity

In LVIA, visual receptor **sensitivity** is assessed by combining judgements about the value attached to views and the susceptibility of the viewer to the type of change and nature of the development proposed. The overall sensitivity of the visual receptor to a particular development is described as: High, Medium or Low.

- The **value** of public views, which is the focus of GLVIA3, will vary depending on the nature, location and context of the view and the recognised importance of the view. Considerations include cultural associations; designation or policy protection; views of or from landmarks; and/or the scenic quality of the view. It should be noted that the value attributed relates to the value of the view only (e.g., a National Trail is nationally valued for access, but not always for the available views from every section). In the LVIA, the value attributed to visual amenity will be described as: National, Regional, or Community.
 - **Susceptibility** of visual receptors: Those living within view of the Proposed Development are usually regarded as the highest susceptibility group as well as those engaged in outdoor pursuits for whom landscape experience is the primary objective. The susceptibility of potential visual receptors will also vary depending on the activity of the receptor. For visual receptors, susceptibility and value are closely linked - the most valued views are also likely to be those where viewer's expectations will be highest. In the LVIA, visual receptor susceptibility will be defined in accordance with the criteria below:
 - High - Local residents; users of outdoor recreation focussed on the appreciation of views including footpaths, beauty spots and picnic areas and people experiencing views to or from important features of physical, visual, cultural or historic interest.
 - Medium - Local road users and travellers on trains. People engaged in outdoor recreation with some appreciation of the landscape e.g., road cycling, nature conservation, golf and water based recreation.
 - Low - Workers, users of facilities and commercial buildings (indoors) experiencing views from buildings. Road and rail users on fast moving commuting or trunk routes. Visual receptors where views are incidental to the activity and/or location.
-

Sensitivity is judged taking into account the component judgments about the value and susceptibility of the receptor, as illustrated by **Table D10** below. Where sensitivity is judged to lie between levels, an intermediate assessment will be adopted.

Table D10: Visual sensitivity criteria

Value	Susceptibility		
	High	Medium	Low
National	High	High / Medium	Medium
Regional	High / Medium	High / Medium	Medium / Low
Community	High / Medium	Medium	Low

Magnitude of visual change

The **magnitude** of visual change arising from the Proposed Development is assessed in terms of its size or scale, geographic extent of the area or receptor that is influenced and its duration.

The **scale** of change arising from the proposed development as experienced by a visual receptor group reflects the degree to which the nature of the views from that location would be changed taking into account:

- The distance from the Proposed Development.
- The degree to which the Proposed Development is visible or screened.
- The angle of view in relation to main receptor activity or main focus of the view.
- The horizontal and vertical field of view occupied by the Proposed Development.
- The extent and nature of other built development visible.

The scale of change in view is described as: Large, Medium or Small.

The approach to assessing effects on views is to consider the full 360-degree view from any given receptor – not just those towards the development and/or shown in visualisations. It is assumed that the change would be seen in clear visibility and the assessment is carried out on that basis. Seasonal variations in visibility due to varying vegetation cover is also taken into account in all judgements.

For visual receptors moving through the landscape (e.g., along footpaths, roads), the length of their journey during which they would see the proposed development is reflected in the judgement of the **geographic extent** of effects. In the LVIA, the geographical extent of visual change will be described as: Wide, Intermediate, Localised or Limited.

Duration reflects how long the change will last and judgements are framed in the same way as described above for landscape effects. In the LVIA, the duration of the change will be considered:

- short term when lasting less than 2 years
- medium term when lasting between 2 and 10 years
- long term when lasting between 10 and 40 years, and
- permanent for more than 40 years.

Magnitude is considered taking into account the three contributory factors, as illustrated by the diagrams presented in **Figure D1** below.

Combining scale of change, extent and duration to determine magnitude of landscape and visual effects

Scale of change is the first and primary factor in determining magnitude. Geographical extent and duration of the effect are modifying factors to the overall magnitude judgement which may be higher if the effect is particularly widespread and/or long lasting, or lower if it is constrained in geographic extent and/or timescale.

The diagrams presented below in **Figure D1** illustrate in outline how these judgements are considered as a two-stage process. They are not intended to be interpreted rigidly as a chart to provide definitive answers; professional judgement is employed as appropriate to arrive at an overall magnitude judgement.

Firstly, scale and extent are considered, for which the outcomes are illustrated by the first part of the diagram; the second part of the diagram illustrates the influence of duration on this initial judgement.

In the LVIA, the magnitude of effects will be described as: Substantial, Moderate, Slight or Negligible. Where magnitude is judged to lie between levels, an intermediate assessment will be adopted.

Figure D1 Scale of effect diagrams

Scale / extent	Large	Medium	Small	Negligible
Wide	Substantial			
Intermediate		Moderate		
Localised			Slight	
Limited				Negligible

Stage 1 Result / Duration	Substantial	Moderate	Slight	Negligible
Permanent	Substantial			
Long-term		Moderate		
Medium-term			Slight	
Short-term				Negligible

Significance of landscape and visual effects

The significance of any identified landscape or visual effect will be assessed as Major, Moderate, Minor or Negligible. These categories are based on the consideration of sensitivity with the predicted magnitude of change. **Table D11** below is not used as a prescriptive tool and illustrates the typical outcomes, allowing for the exercise of professional judgement. In some instances, a particular parameter may be considered as having a determining effect on the analysis.

Table D11: Significance of effect criteria

Receptor Sensitivity	Magnitude of Change			
	Substantial	Moderate	Slight	Negligible
High	Major	Major / Moderate	Moderate	Minor
Medium	Major / Moderate	Moderate	Moderate / Minor	Minor / Negligible
Low	Moderate	Moderate / Minor	Minor	Negligible

Where the effect has been classified as Major or Major/Moderate, this is considered to be equivalent to a likely significant effect. Where 'Moderate' effects are predicted, professional judgement will be applied to determine whether the effect is significant or not ensuring that the potential for significant effects to arise has been thoroughly considered.

Landscape and visual effects can be beneficial or adverse and, in some instances, may be considered neutral. Neutral effects are those which overall are neither adverse nor positive but may incorporate a combination of both. Whether an effect is beneficial, neutral or adverse is identified based on professional judgement. GLVIA3 indicates at paragraph 2.15 that this is a "*particularly challenging*" aspect of assessment, especially in the context of a changing landscape.

However, for the avoidance of doubt, in the LVIA it will be assumed that where new infrastructure is introduced into the landscape or views, this will generally constitute an adverse effect. Any variation from this stance will be clearly justified in the LVIA.

Land, Soils and Groundwater

Receptor sensitivity

Sensitivity criteria, derived from professional judgement, are defined in **Table D12**.

Table D12: Receptor sensitivity

Sensitivity	Definition
Very High	The receptor is highly sensitive and could be easily damaged by activities associated with the Proposed Development. The receptor is likely to be of national significance. The recovery of the receptor is either impossible or very long term.
High	The receptor is of high sensitivity and is of importance at a local or regional level. The receptor is vulnerable to the effects of the Proposed Development and recovery would be slow and/or costly (e.g.,

Sensitivity	Definition
	remedial measures to groundwater may be required to prevent a wider impact).
Medium	<p>The receptor is of medium value and is likely to be of local importance.</p> <p>The receptor is slightly vulnerable to impacts from the Proposed Development and would be expected to recover over a moderate timescale (e.g., up to 5 years for groundwater to return to its current or an improved condition).</p>
Low	<p>The receptor is of low value and has little contribution to local, regional or national resources.</p> <p>The receptor is not generally vulnerable to impacts that may arise from the Proposed Development and/or will recover over a short timescale (e.g., up to 1 year before groundwater returns to its current or improved condition).</p>
Negligible	<p>The receptor is of negligible positive value.</p> <p>The receptor is not vulnerable to impacts that may arise from the Proposed Development and/or will recover quickly.</p>

Magnitude of impact

Where an impact is considered to be present, the magnitude of impact will be classified using the criteria presented in **Table D13** below, which are derived from professional judgement. Impacts can be beneficial or adverse.

Table D13: Magnitude of impact criteria

Magnitude of impact	Definition
Major	<p>These impacts are likely to be important considerations at a regional or district scale, and if adverse, are potential concerns, depending upon the relative importance attached to the issue during the decision-making process. Mitigation measures and detailed design work are unlikely to remove all the impacts upon the affected communities or interests.</p> <p>Examples include short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA; short-term risk of pollution of sensitive water resources; catastrophic damage to buildings or property; and short-term risk to an ecosystem or part of an ecosystem.</p>
Moderate	<p>These impacts, if adverse, while important at a local scale, are not likely to be key decision-making issues. The cumulative effect of such issues may lead to an increase in</p>

Magnitude of impact	Definition
	<p>the overall impacts on a particular area or on a particular resource. They represent issues where impacts will be experienced but mitigation measures and detailed design work may ameliorate/enhance some of the consequences upon affected communities or interests. Some residual impacts will still arise.</p> <p>Examples include chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000); pollution of sensitive water resources; and significant change in an ecosystem or organism forming part of that ecosystem.</p>
Minor	<p>These impacts may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in the detailed design of the Proposed Development and consideration of mitigation or compensation measures.</p> <p>Examples include pollution of non-sensitive water resources; significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000); and damage to sensitive buildings, structures or the environment.</p>
Negligible	<p>No change or a barely perceptible change from the baseline position.</p> <p>Examples include non-permanent human health impacts easily prevented by use of personal protective clothing; and easily repairable damage to buildings, structures and services.</p>
No change	No change from baseline conditions

Significance of effect

The significance of effect will be based on the sensitivity of the receptor and the magnitude of impact, as outlined in **Table D14** below. The significance of effect can be adverse or beneficial.

Table D14: Significance of effect criteria

Sensitivity	Magnitude of Impact			
	Major	Moderate	Minor	Negligible
Very High	Very High	High	Moderate	Moderate / Low

High	High	Moderate	Moderate / Low	Low
Medium	Moderate	Moderate / Low	Low	Very Low
Low	Moderate / Low	Low	Very Low	Very Low
Negligible	Low	Very Low	Very Low	Very Low

Noise and Vibration

The methods for assessing the significance of noise from construction activities are provided within Annex E of BS 5228. One such method of applying significance to noise effects is repeated in **Table D15** below.

Table D15: Criteria for assessing the significance of noise from construction activities

Assessment Category and Threshold Value Period, L_{Aeq}	Threshold Value in Decibels, dB		
	Category A ¹	Category B ²	Category C ³
Night-time (23.00–07.00)	45	50	55
Evenings and weekends⁴	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

¹ Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.
² Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.
³ Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.
⁴ 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

A significant effect has been deemed to occur if the site noise level (construction only) exceeds the threshold level for the category appropriate to the ambient noise level for a month or more. If the baseline ambient noise level exceeds the Category C values, then a significant effect is deemed to occur if the total noise level (construction + ambient noise) for the period increases by more than 3 dB.

Works for a shorter duration that might result in a significant effect are considered by using the trigger levels for sound insulation and time criteria from Annex E.4 of BS 5228-1.

BS 5228-2: 2009 +A1:2014 'Code of practice for noise and vibration control on construction and open sites. Vibration'

BS 5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Vibration' (BS5228) provides guidance on vibration levels that can be used to assess the likely impacts of construction activities on buildings and on humans. Annex B of the standard gives guidance on the significance of vibration effects in terms of human response to vibration and structural response, as presented in **Table D16** and **Table D17** respectively below.

Table D16: Guidance on effects of vibration levels perceptible on humans during construction

Vibration Level (PPV)	Effect
0.14 mms⁻¹	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3 mms⁻¹	Vibration might be just perceptible in residential environments.
1.0 mms⁻¹	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
10 mms⁻¹	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

Table D17: Transient vibration guide values for cosmetic damage during construction

Line	Type of Building	Peak component particle velocity in frequency range of predominant pulse	
		4 Hz to 15 Hz	15 Hz and above
1	Reinforced or framed structures / industrial and heavy commercial buildings.	50 mms ⁻¹ at 4 Hz and above.	
2	Unreinforced or light framed structures.	15 mms ⁻¹ at 4 Hz increasing to 20 mms ⁻¹ at 15 Hz.	20 mms ⁻¹ at 15 Hz increasing to 50 mms ⁻¹ at 40 Hz and above.
	Residential or light commercial buildings.		

Note 1 – values referred to are at the base of the building.
 Note 2 – for line 2, at frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not to be exceeded.

BS5228 states that the guide values in **Table D17** predominantly relate to transient vibration which does not give rise to resonant responses in structures, and to low-rise buildings. Where the dynamic loading caused by continuous vibration is such as to give rise to dynamic magnification due to resonance, especially at the lower frequencies where lower guide values apply, then the guide values in **Table D17** might need to be reduced by up to 50%.

British Standard 4142: 2014 + A1: 2019 ‘Methods for rating and assessing industrial and commercial sound’

BS 4142:2019 describes the methods for rating and assessing noise from industrial or commercial sources, including manufacturing processes, fixed installations and plant equipment, loading of goods and sound from mobile plant. The standard is applicable for the purpose of assessing sound at dwellings, through the determination of a rating level of an industrial or commercial noise source.

Where certain acoustic features are present at the assessment location, a character correction should be applied to the specific sound level to give the rating level to be used in the assessment.

- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5 dB is likely to be an indication of adverse impact depending on the context.
- Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact depending on the context.

Where the initial estimate of the impact needs to be modified due to the context, all pertinent factors should be taken into account, including:

- The absolute level.
- The character and level of the residual sound.
- The sensitivity of the receptor and whether dwellings will already (or likely) to incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as: i) façade insulation treatments, ii) ventilation and/or cooling, and iii) acoustic screening.

The criteria in **Table D18** below will be adopted for the assessment of magnitude of impact. The criteria have been developed based on the guidance detailed below.

Table D18: Magnitude of noise impact criteria

Impact	Magnitude Criteria			
	Negligible	Low	Medium	High
Construction and decommissioning phases –	Less than 55 dB LAeq,T	Between 55 and	Between 66 and	Greater than 75 dB LAeq,T

Impact	Magnitude Criteria			
	Negligible	Low	Medium	High
daytime noise (BS 5228-1:2009+A1:2014)		65 dB L _{Aeq,T}	75 dB L _{Aeq,T}	
Construction and decommissioning phases – night-time noise (BS 5228-1:2009+A1:2014)	Less than 40 dB L _{Aeq,T}	Between 40 and 45 dB L _{Aeq,T}	Between 46 and 55 dB L _{Aeq,T}	Greater than 55 dB L _{Aeq,T}
Construction phase and decommissioning - road traffic noise (DMRB LA 111 'Noise and Vibration')	Less than 1 dB increase in road traffic noise	1.0 to 2.9 dB increase in road traffic noise	3.0 to 4.9 dB increase in road traffic noise	Greater than or equal to 5 dB increase
Construction and decommissioning phases – vibration (BS 5228-2:2009+A1:2014)	Less than 0.3 mm/s PPV	0.3 to less than 1.0 mm/s PPV	1.0 to 9.9 mm/s PPV	Greater than or equal to 10 mm/s PPV
Operational phase – daytime noise (BS 4142: 2014 + A1: 2019 / WHO, 1999 / BS 8233: 2014)	Rated noise level equal to or less than 35 dB L _{Ar, T}	Rated noise level between 36 and 40 dB L _{Ar, T}	Rated noise level between 41 and 50 dB L _{Ar, T}	Rated noise level greater than 50 dB L _{Ar, T}
Operational phase – night-time noise (BS 4142: 2014 + A1: 2019 / WHO, 1999 / BS 8233: 2014)	Rated noise level equal to or less than 30 dB L _{Ar, T}	Rated noise level between 31 and 35 dB L _{Ar, T}	Rated noise level between 36 and 45 dB L _{Ar, T}	Rated noise level greater than 45 dB L _{Ar, T}
Notes:				
1. <i>Operational phase noise criteria are based on rated noise levels as defined in BS 4142: 2014+A1: 2019.</i>				

With regards to the operational magnitude criteria, BS 4142 advises that where rating levels and background levels are low, which is typically the case in rural areas, the assessment of operational noise should take into context the absolute noise level. The ANC Guide to BS 4142 provides context to this by stating:

“BS 4142 does not define ‘low’ in the context of background sound levels nor rating levels. The note to the Scope of the 1997 version of BS 4142 defined very low background sound levels as being less than about 30 dB LA90, and low rating levels as being less than about 35 dB L_{Ar,Tr}”.

The ANC Guide suggests that: *“...similar values would not be unreasonable in the context of BS 4142, but that the assessor should make a judgement and justify it where appropriate”.*

In this case, it is considered that a minimum rating level of 40 dB L_{Ar,Tr} during the daytime, and 35 dB L_{Ar,Tr} for the low magnitude impact criteria, would align with Planning Practice Guidance, which defines noise below the lowest observed adverse effect level (LOAEL) as follows:

“Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life”.

Based on the measured baseline noise levels, residual noise levels (L_{Aeq,T}) are equal to or less than the applied rating level design targets applied to the low magnitude criteria. This is considered to successfully apply the concepts of a lowest observed adverse effect level (LOAEL) within Planning Practice Guidance and ‘context’ within BS 4142.

Furthermore, BS 8233:2014 ‘Guidance on sound insulation and noise reduction for buildings’ and the World Health Organisation (WHO) ‘Guidelines for Community Noise’ (1999) provide guidance levels for internal noise within dwellings of 30 dB L_{Aeq,T} for good sleeping conditions at night. However, residents are likely to be inside their properties at night. BS 8233:2014 states that building envelope attenuation would be reduced by approximately 15 dB for a partially open window. Consequently, an external high magnitude criteria, indicating a significantly adverse effect level (SOAEL) of 45 dB L_{Ar,Tr} has been adopted for the night-time.

Based on the adaptation of absolute limits, WHO 1999 provides guidance on permissible levels above which adverse effects are likely to occur. Therefore, the criteria for LOAEL and SOAEL adopted within this assessment are considered as a design limit, above which the onset of LOAEL and SOAEL would occur.

Assessment criteria

The overall significance of an effect is determined by combining the sensitivity of the receptor and the magnitude of impact (as presented in **Table D19**). The assessment of significance relies on best practice, the relevant published standards and guidance documents, and professional judgement.

Table D19: Determining Significance of effects

	Sensitivity of receptor/receiving environment to change
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Magnitude of impact	High	Medium	Low	Negligible
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Negligible	Negligible
Low	Minor	Negligible	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Based on the above, assessment criteria used to establish significance of effect from the Proposed Development will be developed and agreed with the Environmental Health Officer at Buckinghamshire Council.

Transport and Access

The Institute of Environmental Management and Assessment (IEMA) Environmental Assessment of Traffic and Movement (2023) will be used to characterise the environmental traffic and transport effects (off-site effects) and the assessment of significance. The guidelines intend to complement professional judgement and the experience of trained assessors.

In terms of traffic and transport impacts, the receptors are the users of the roads within the study area and the locations through which those roads pass.

The sensitivity of receptors is detailed in **Table D20** and **Table D21** below. The assessment will only consider the construction phase.

Table D20: Classification of receptor sensitivity for road users

Sensitivity of Receptor	Criteria for Road Users
High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs. Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.
Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.
Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition. Includes roads with little or no traffic calming or traffic management measures.
Negligible	Where roads have no adjacent settlements. Includes new strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal

Sensitivity of Receptor	Criteria for Road Users
	Loads and new strategic trunk road junctions capable of accommodating Abnormal Loads.

Table D21: Classification of receptor sensitivity for residents / locations

Sensitivity of Receptor	Criteria for Residents / Locations
High	Where a location is a large rural settlement containing a high number of community and public services and facilities.
Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Low	Where a location is a small rural settlement, few community or public facilities or services.
Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.

The IEMA guidance identifies the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development. The impacts and levels of magnitude are discussed below:

- Severance** – the IEMA guidance advises that, “*The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic.*” (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that “*the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc.*” (Para 3.17).
- Driver delay** – the IEMA guidance notes that these delays are only likely to be “*significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*” (Para 3.20).
- Pedestrian delay** (incorporating delay to all non-motorised users) – the IEMA guidance advises that “*pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site.*” (Para 3.24). Furthermore, the

guidance advises that “...it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect.” (Para 3.26).

- **Non-motorised user amenity** - the IEMA guidance advises that, “*The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law.*” (Para 3.30).
- **Fear and intimidation** – there are no commonly agreed thresholds for estimating levels of fear and intimidation, from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30%, 60% and 90% are regarded as producing minor, moderate and substantial changes respectively in the IEMA guidance (Para 2.19). As such, this will be used to assess the potential impacts associated with construction activities around fear and intimidation on people in close proximity to the Proposed Development.
- **Road safety** – professional judgement will be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA guidance, those areas of collision clusters will be subject to detailed review.
- **Road safety audits** – it would be proposed to undertake any necessary Road Safety Audits (RSA) post consent and it is considered that this can be secured via a requirement to the DCO.
- **Large loads** – the movement of the Abnormal Indivisible Loads (AILs) associated with the construction of the Proposed Development will be considered in full, within a separate route survey assessment, which will identify physical mitigation measures required to accommodate the predicted loads.

While not specifically identified, as a more vulnerable road user, cyclists are considered in similar terms to pedestrians.

The criteria to determine the significance of effects is presented in **Table D22** below.

Table D22: Significance of Effects

Receptor Sensitivity	Magnitude of Change			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Population

The significance of effects relating to Population will be assessed in line with Design Manual for Roads and Bridges; LA 112 Population and Human Health and professional judgement.

The criteria for determining the sensitivity of receptors are detailed in **Table D23** below.

Table D23: Environmental value (sensitivity) and descriptions

Receptor value (sensitivity)	Description
Very high	<p>Businesses:</p> <ul style="list-style-type: none"> existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering >5ha. <p>Agricultural land holdings:</p> <ul style="list-style-type: none"> areas of land in which the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (daily). <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> national trails and routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient walkers, cyclists, horse-riders route. Little / no potential for substitution. routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small

Receptor value (sensitivity)	Description
	<p>changes in the baseline due to potentially different needs.</p> <ul style="list-style-type: none"> rights of way for walkers, cyclists, horse-riders crossing roads at grade with >16,000 vehicles per day.
High	<p>Businesses:</p> <ul style="list-style-type: none"> existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering >1 - 5ha. <p>Agricultural land holdings:</p> <ul style="list-style-type: none"> areas of land in which the enterprise is dependant on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (weekly). <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> regional trails and routes (e.g. promoted circular walks) likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use. Limited potential for substitution; and/or rights of way for walkers, cyclists, horse-riders crossing roads at grade with >8,000 - 16,000 vehicles per day
Medium	<p>Businesses:</p> <ul style="list-style-type: none"> existing employment sites (excluding agriculture) and land allocated for employment (e.g. strategic employment sites) covering <1ha. <p>Agricultural land holdings:</p> <ul style="list-style-type: none"> areas of land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly). <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> public rights of way and other routes close to communities which are used for recreational purposes (e.g. dog walking), but for which alternative routes can be taken. These routes are likely to link to a wider network of routes to provide options for longer, recreational journeys, and / or rights of way for walkers, cyclists, horse-riders crossing roads at grade with >4000 – 8000 vehicles per day

Receptor value (sensitivity)	Description
<p>Low</p>	<p>Businesses:</p> <ul style="list-style-type: none"> proposed development on unallocated sites providing employment with planning permission/in the planning process. <p>Agricultural land holdings:</p> <ul style="list-style-type: none"> areas of land which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less frequent). <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> routes which have fallen into disuse through past severance or which are scarcely used because they do not currently offer a meaningful route for either utility or recreational purposes, and/or rights of way for walkers, cyclists, horse-riders crossing roads at grade with <4000 vehicles per day.
<p>Negligible</p>	<p>Businesses:</p> <ul style="list-style-type: none"> N/A. <p>Agricultural land holdings:</p> <ul style="list-style-type: none"> areas of land which are infrequently used on a non-commercial basis. <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> N/A.

The criteria for determining the magnitude of impact (change) likely to be experienced by receptors are detailed in **Table D24** below.

Table D24: Magnitude of impact and typical descriptions

Magnitude of impact (change)	Typical descriptions
<p>Major</p>	<p>Businesses and agricultural land holdings:</p> <ul style="list-style-type: none"> loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements. e.g. direct acquisition and demolition of buildings and direct development of land to accommodate highway assets; and/or

Magnitude of impact (change)	Typical descriptions
	<ul style="list-style-type: none"> introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision. <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> >500 m increase (adverse) / decrease (beneficial) in walkers, cyclists, Horse-riders journey length.
Moderate	<p>Businesses and agricultural land holdings:</p> <ul style="list-style-type: none"> partial loss of/damage to key characteristics, features or elements, e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of property, businesses, community assets or agricultural holdings; and/or introduction (adverse) or removal (beneficial) of severe severance with limited / moderate accessibility provision. <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> >250 m – 500 m increase (adverse) or decrease (beneficial) in walkers, cyclists, horse-riders journey length.
Minor	<p>Businesses and agricultural land holdings:</p> <ul style="list-style-type: none"> a discernible change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements, e.g. amendment to access or acquisition of land resulting in changes to operating conditions that do not compromise overall viability of property, businesses, community assets or agricultural holdings; and/or introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision. <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> >50 m – 250 m increase (adverse) or decrease (beneficial) in walkers, cyclists, horse-riders journey length.
Negligible	<p>Businesses and agricultural land holdings:</p> <ul style="list-style-type: none"> very minor loss or detrimental alteration to one or more characteristics, features or elements. e.g. acquisition of non-operational land or buildings not directly affecting the viability of property,

Magnitude of impact (change)	Typical descriptions
	<p>businesses, community assets or agricultural holdings; and/or</p> <ul style="list-style-type: none"> very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision. <p>Walkers, cyclists, horse-riders:</p> <ul style="list-style-type: none"> <50m increase (adverse) or decrease (beneficial) in walkers, cyclists, horse-riders journey length.
No change	No loss or alteration of characteristics, features, elements or accessibility; no observable impact in either direction.

Taking the sensitivity of a receptor and the expected magnitude of impact (change) together will determine the likely significance of the effect. This significance matrix is shown in **Table D25** below.

Table D25: Significance of Effects

Receptor Sensitivity	Magnitude of Change			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Appendix E

Proposed Structure of the Environmental Statement



APPENDIX E – PROPOSED STRUCTURE OF THE ENVIRONMENTAL STATEMENT

The ES will form three volumes and a Non-Technical Summary (NTS) as detailed below, alongside the anticipated chapters that will form part of Volume 1.

Volume 1 – Non Technical Summary

Volume 2 – Main Report

Introductory Chapters

Chapter 1: Introduction

Chapter 2: Description of the Proposed Development

Chapter 3: Reasonable Alternatives Considered

Chapter 4: Consultation

Chapter 5: Approach to EIA

Technical Chapters

Chapter 6: Air Quality

Chapter 7: Biodiversity

Chapter 8: Climate

Chapter 9: Cultural Heritage

Chapter 10: Landscape and Visual

Chapter 11: Land, Soils and Groundwater

Chapter 12: Noise and Vibration

Chapter 13: Population

Chapter 14: Transport and Access

Chapter 15: Cumulative Effects

Concluding Chapters

Chapter 16: Summary of Effects

Volume 3 – Supporting Technical Appendices

Volume 4 – Supporting Figures and Plans

Non-Technical Summary (NTS)

Volume 1 will form the form the main report and body of the Environmental Statement. This will provide details about the proposed scheme, consultation, assessment scope and methodology, likely significant effects arising from the Proposed Development, and the proposed mitigation measures.

In accordance with the EIA Regulations, **Volume 1** will include a chapter detailing the main reasonable alternatives that have been considered by the Applicant and the process of the design evolution of the Proposed Development.

Volume 2 will comprise a set of technical appendices. These will include technical reports to support the assessments which will be detailed in **Volume 1**.

Volume 3 will include a set of figures to support the assessments which will be detailed in Volume 1.

The **Non-Technical Summary (NTS)** will form a separate document to the Main Report in **Volume 1**. The **NTS** will form a concise description of the scheme, alternatives, assessment methodology, potential environmental effects and mitigation measures. The **NTS** will be presented in an accessible format which can be easily understood by a wide audience.

Appendix F

Biodiversity Reports and Figures



Appendix F-1

PEA September 2021

Rosefield Solar Farm

Preliminary Ecological Appraisal Report

Rosefield EnergyFarm
Limited

May 2022

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
V1	07/02/2022	Issue to Client for review	NG	NG	Associate Director
V2	04/05/2022	Updated to include recently surveyed areas and issued to Client	JS	JS	Technical Director

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Executive Summary

AECOM was instructed by Rosefield EnergyFarm Limited to undertake a Preliminary Ecological Appraisal (PEA) of the proposed Rosefield Solar Farm (the 'Proposed Scheme') located in Aylesbury Vale, Buckinghamshire (see Figure 1).

This PEA was commissioned in late August 2021 to identify whether there are any known or potential ecological receptors (nature conservation designations, protected and notable habitats and species and scheduled invasive non-native species) that may constrain or influence the design and implementation of the Proposed Scheme.

In order to deliver the PEA, a desk study and an extended Phase 1 Habitat Survey were undertaken by appropriately experienced ecologists, to identify ecological features associated with the Proposed Scheme and the wider potential zone of influence. The potential zone of influence was defined with reference to the red line boundary (the 'Site') as shown on Figure 1 and outline details of the Proposed Scheme as detailed in Section 1.3 of this report.

The Proposed Scheme is located in three main sites (referred to hereafter as Site 1 (with a sub-site '1a'), Site 2 and Site 3), with dominating habitats being arable fields with a few improved grassland livestock fields in Site 3. Additionally, a proposed grid connection connects the Sites to the East Claydon Substation, adjacent to Site 3. There are mature trees and hedges, small wooded copses and ponds within the Site. The Site is surrounded mainly by arable and mature broadleaved woodland (plantation, semi-natural and ancient). There are individual and clusters of residential properties located within and adjacent to the Site.

Three national statutory sites and 20 non-statutory sites designated for their nature conservation value were identified within the 2km study area. No designated sites are located within the Site boundary, although four local wildlife sites are adjacent to the Site.

The desk study also identified records of protected or notable species of flora and fauna within the desk study area (comprising a 2km zone of influence from the Site).

The extended Phase 1 Habitat Survey identified the following notable habitats within the study area (Site and up to 50m from the Site boundary): Ancient and / or Species Rich Hedgerows, Ancient Woodland / Lowland Deciduous Mixed Woodland, Running Water, Standing Open Waters / Ponds and Arable Field Margins.

Subject to further survey and assessment, potential constraints have been identified relating to:

- Designated sites;
- Notable habitats (*i.e.* habitats of principal importance);
- Aquatic species including macroinvertebrates and invasive non-native species;
- Terrestrial Invertebrates;
- Badger (*Meles meles*);
- Bat species (including roosting, foraging and commuting habitat);
- Breeding and non-breeding (wintering) birds;
- Flora, including arable flora and invasive non-native plant species;
- Great crested newt (*Triturus cristatus*);
- Otter (*Lutra lutra*) and Water Vole (*Arvicola amphibius*); and
- Reptiles.

In addition to the above, surveys may be required following consultation and further design details of the Proposed Scheme. This may include detailed bat roost presence / absence surveys, bat trapping surveys, a hedgerow survey and a terrestrial invertebrate survey where habitat features cannot be avoided. A Biodiversity Net Gain assessment will be required to meet national and local planning policy.

With regards to bats, populations of Bechstein's bats are known to occur close to and within the Site and plantation woodland within and adjacent to Sites 1 and 1a, which appear to be mitigation for the adjacent HS2. Therefore, woodland areas (including plantation woodland) are of high sensitivity to bats. Given the proximity of HS2 to the Proposed Scheme (to the immediate west of Site 1), effort should be made to gain access to the relevant datasets for bats to identify areas of key interest and potential constraint.

Any such discussions with HS2 should also investigate whether they have undertaken any work within the Proposed Scheme for other protected species, such as Great Crested Newt, to ascertain the locations of known populations of protected species.

The outlined constraints will need to be reassessed when the exact design and layout of the Proposed Scheme have been determined, when further surveys have been undertaken or if there are any significant changes in the use or management of the land that would affect the habitats and species.

If a DCO application is made two years or more after the PEA reported here, it is advisable to review and update the survey data (*i.e.* after April 2024).

1. Introduction

1.1 Background

This Preliminary Ecological Appraisal (PEA) report (PEAR) has been prepared by AECOM on behalf of Rosefield EnergyFarm Limited, to identify whether there are known or potential ecological receptors (nature conservation designations, protected and notable habitats and species and scheduled invasive non-native species) that may constrain or influence the design and implementation of the Rosefield Solar Farm (hereafter referred to as the Proposed Scheme).

The assessment of ecological receptors has been undertaken with reference to current good practice and forms part of the technical information commissioned by Rosefield EnergyFarm Limited in connection with the Proposed Scheme. The approach applied when undertaking this PEAR accords with the Guidelines for Preliminary Ecological Appraisal published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) (Ref 7-1). The PEAR addresses relevant wildlife legislation and planning policy as summarised in Section 2 of this report and is consistent with the requirements of British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development (Ref 7-2).

This PEAR is intended to provide a high-level appraisal in respect of the Proposed Scheme design, site layout and / or site investigation. Preliminary high-level recommendations are made on potential options for the avoidance, mitigation or compensation of the potential impacts of the Proposed Scheme (where known) on the identified ecological receptors and of potential enhancements to the biodiversity to achieve an overall gain. Further ecological surveys and / or ecological impact assessment (including detailed mitigation measures) may be required in connection with a planning application or to contribute to an Environmental Impact Assessment once the scheme proposals have been finalised and any required surveys have been completed.

1.2 Purpose of the PEAR

In order to deliver the PEAR, a desk study and an extended Phase 1 Habitat Survey were undertaken by appropriately experienced ecologists, to identify ecological features within the Proposed Scheme and the wider potential zone of influence. The potential zone of influence was defined with reference to the red line boundary (the 'Site') as shown on Figure 1 (see Section 1.4) and the type of development, as detailed in Section 1.3. Additional details on the methods used are provided in Section 3.

The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to:

- establish baseline conditions and determine the presence of Important Ecological Features (IEFs) (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the Scheme and make initial recommendations to avoid impacts on IEFs, where possible;
- to identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys; and
- to identify any opportunities offered by the Proposed Scheme to deliver biodiversity enhancements.

1.3 Proposed Scheme

Rosefield EnergyFarm Limited is a proposed new solar energy farm, co-located with battery storage. The proposals include grid infrastructure to connect Rosefield Energy Limited to the National Grid via underground cable. The Proposed Scheme would export or import up to 500MW of electricity to and from the National Grid. The proposed generation capacity of the Proposed Scheme means it is a

Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.4 Site Description

The Proposed Scheme is located in three main sites (referred to hereafter as Site 1 (with a sub-site '1a'), Site 2 and Site 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale.

The Site is located at Ordnance Survey national grid reference SP7024 (Knowl Hill).

Site 1 makes up the largest area of the Proposed Scheme, to the east of Calvert, and consists predominately of arable fields with livestock pastures and woodland blocks. A smaller section, referred to as Site 1a, lies to the immediate south of Site 1. Site 2 contains predominantly arable fields surrounded by woodland blocks. Site 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Sub-station. The Sites are surrounded by arable, grassland and woodland.

The location of the Proposed Scheme is shown in Figure 1.

2. Legislation and Policy Context

2.1 Legislative Context

The following wildlife legislation was considered when undertaking this PEA:

- Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 7-3);
- Countryside and Rights of Way (CROW) Act 2000 (Ref 7-4);
- Natural Environment and Rural Communities (NERC) Act 2006 (Ref 7-5);
- The Conservation of Habitats & Species Regulations 2017 (as amended) (the Habitats Regulations) (Ref 7-6) and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (Ref 7-7);
- The Protection of Badgers Act 1992 (Ref 7-8);
- The Hedgerow Regulations 1997 (Ref 7-9);
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 7-10);
- Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended) (Ref 7-11); and
- The Environment Act 2021 (Ref 7-12).

Further information on the requirements of the above legislation are provided in Appendix A.

2.2 National and Local Planning Policy

National Planning Policy Framework

The National Planning Policy Framework (NPPF) (Ref 7-13) states the commitment of the UK Government to minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity.

It specifies the obligations that Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation and how this is to be delivered in the planning system. Protected or notable habitats and species can be a material consideration in planning decisions and may therefore make some sites unsuitable for certain types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

The NPPF is clear that pursuing sustainable development includes moving from no net loss of biodiversity to achieving net gains for nature, and that a core principle for planning is that it should contribute to conserving and enhancing the natural environment and reducing pollution.

The latest revision of the NPPF came into being in July 2021. Relevant sections of the NPPF are included in Appendix A.

National Planning Policy Statements

The following National Policy Statements (NPSs) are relevant to solar developments and these NPSs were 'designated' in 2011 and as far as they are applicable, are considered to be matters that will be important and relevant to the Secretary of State's decision as to whether to grant planning permission for the Proposed Scheme. These NPSs are, as of September 2021, in the process of being updated and therefore, relevant sections of the draft NPSs are also included below.

Overarching National Policy Statement for Energy (EN-1) (2011) (Ref 7-14), with particular reference to paragraphs 4.2.2 and 4.2.3, which provide national policy on what an Environmental Statement (ES)

for a Nationally Significant Infrastructure Project (NSIP) project should contain; paragraph 4.3.1 which states what the Secretary of State must, under the Conservation of Habitats and Species Regulations 2017 consider when granting a development consent order; and part 5 section 5.3 which sets out guidance on generic impacts relating to biodiversity for the applicant's assessment and decision-making on the application The Draft Overarching National Policy Statement for Energy (EN-1) (Ref 7-15) (2021) includes guidance for biodiversity net gains in paragraphs 4.5.1 to 4.5.3 and generic impacts on biodiversity in Part 5.4 and that guidance has also been considered.

The Draft National Policy Statement for Renewable Energy EN-3 (2021) (Ref 7-16) now includes sections 2.47 to 2.54 (inclusive) which set out policy requirements specific to solar generation and these have been considered.

Part 2.7 of the National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011) (Ref 7-17) sets out generic impacts concerning biodiversity, although these are more relevant to considerations for birds and overhead lines. However, the draft EN-5 (2021) (Ref 7-18) details biodiversity considerations when choosing an underground electricity line. This includes the environmental consequences, as underground cables can disturb sensitive habitats.

Local and Regional Plans

Local Planning policies that are relevant to biodiversity for the Proposed Scheme are:

- Buckinghamshire Local Plan (Ref 7-19); and
- Vale of Aylesbury Local Plan (VALP) 2013-2033 (Ref 7-20).

Buckinghamshire Local Plan

The Buckinghamshire Local Plan is currently being drafted with the intention of creating a new Buckinghamshire-wide local plan by April 2025.

"This local plan will cover the whole of the Buckinghamshire Council area, for the period up to 2040, as part of the development plan. The Plan is likely to include:

- *a vision and ambitions/objectives for the development of the area;*
- *a spatial development strategy;*
- *plans setting out zones for growth areas, renewal areas and areas for protection; and*
- *detailed rules (policies) for the individual zones, including specific requirements for the development of growth areas and renewal areas."*

Vale of Aylesbury Local Plan

The Vale of Aylesbury Local Plan (VALP) seeks to conserve and enhance Aylesbury Vale's biodiversity through the protection and improvement of the terrestrial and water environments and fauna and flora, relative to their importance. Policies relevant to biodiversity are included below.

Policy NE1 states:

"Internationally or nationally important Protected Sites (SACs and SSSIs) and species will be protected. Avoidance of likely significant adverse effects should be the first option.

Development proposals that would lead to an individual or cumulative adverse impact on an internationally or nationally important Protected Site or species, such as SSSIs or irreplaceable habitats such as ancient woodland or ancient trees, will be refused unless exceptional circumstances can be demonstrated.

A net gain in biodiversity on minor and major developments will be sought by protecting, managing, enhancing and extending existing biodiversity resources, and by creating new biodiversity resources. These gains must be measurable using best practice in biodiversity and green infrastructure accounting and in accordance with any methodology (including a Biodiversity Impact Assessment) to be set out in the Buckinghamshire Biodiversity Accounting SPD.

If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted. If a net loss in biodiversity is calculated, using a suitable Biodiversity Impact Assessment then avoidance, mitigation and compensation, on site first, then offsite must be sought so the development results in a net gain in order for development to be permitted. Mitigation, compensation and enhancement measures must be secured and should be maintained in perpetuity. These assessments must be undertaken in accordance with nationally-accepted standards and guidance (BS 8683 Biodiversity net gain in project design and construction; and CIRIA Biodiversity Net Gain Good practice principles for development).

Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance (such as Local Wildlife Sites or Local Geological Sites) including habitats of principal importance (Priority Habitats) or the habitats of species of principal importance (Priority Species) or their habitats will not be permitted except in exceptional circumstances where the need for, and benefits of the development significantly and demonstrably outweigh the harm it would cause to the site, and the loss can be mitigated and compensation provided to achieve a net gain.

The Council will, where appropriate, expect ecological surveys for planning applications. These must be undertaken by a suitably qualified person and consistent with nationally accepted standards and guidance (BS 42020: Biodiversity – Code of Practice for planning and development; and CIEEM Ecological Report Writing guidance) as replaced.

Where development proposals affect a Priority Habitat then mitigation should not be off-site. Where no Priority Habitat is involved then mitigation is expected to follow the mitigation hierarchy, where options for avoidance, mitigation and compensation on-site, and then offsite compensation, should be followed in that order as outlined in d. When there is a reasonable likelihood of the presence of protected or priority species or their habitats, development will not be permitted until it has been demonstrated that the proposed development will not result in adverse impacts on these species or their habitats.

Development proposals will be expected to promote site permeability for wildlife and avoid the fragmentation of wildlife corridors, incorporating features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value on site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors including water courses should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.”

Policy NE2 states:

“Development proposals must not have an adverse impact on the functions and setting of any watercourse and its associated corridor. They should conserve and enhance the biodiversity, landscape and consider the recreational value of the watercourse and its corridor through good design. Development proposals adjacent to or containing a watercourse shall provide or retain a 10m ecological buffer (unless existing physical constraints prevent) from the top of the watercourse bank and the development, and include a long-term landscape and ecological management plan for this buffer.”

Policy NE5 states:

“Considering development involving potentially adverse lighting impacts to wildlife, the council will expect surveys to identify wildlife corridors and ensure that these corridors are protected, and enhanced where possible.”

Policy NE8 states:

“Development that would lead to an individual or cumulative significant adverse impact on ancient woodland or ancient trees will be refused unless exceptional circumstances can be demonstrated that the impacts to the site are clearly outweighed by the benefits of the development. Development that would result in the unacceptable loss of, or damage to, or threaten the continued well-being of any trees, hedgerows, community orchards, veteran trees or woodland which make an important contribution to the character and amenities of the area will be resisted. Where the loss of trees is considered acceptable, adequate replacement provision will be required that use species that are in sympathy with the character of the existing tree species in the locality and the site. Where species-rich native hedgerow (as commonly found on agricultural land) loss is unavoidable the developer must compensate for this by planting native species-rich hedgerow, which should result in a net gain of native

hedgerow on the development site. Developers should aspire to retain a 10m (with a minimum of 5m) natural buffer around retained and planted native hedgerows (100m with a minimum 25m natural buffer around woodlands) for the benefit of wildlife, incorporating a dark corridor with no lighting.”

2.3 Other Guidance

Additional guidance has been reviewed for its relevance to the Proposed Scheme and is summarised below.

The 25 Year Environment Plan

In early 2018, the Government published its 25 Year environment plan (Ref 7-21) to provide guidance on its new approach to managing the environment. The plan promotes a natural capital approach that recognises the wider value of the environment and its contribution, such as food, clean water and air, wildlife, energy, wood, recreation and protection from hazards. The plan seeks to embed a net environmental gain principle for development to deliver environmental improvements locally and nationally.

Natural England and Department for Environment, Food and Rural Affairs (Defra) Standing Advice (protected species)

Standing advice from Natural England and Defra (Ref 7-22) provides guidance on protected and notable species and includes reference to the best practice approaches to survey, mitigation and compensation. Guidance is also provided on the procedure for obtaining protected species licences.

This advice has informed the planning of surveys and the approach to mitigating impacts upon protected species, including where necessary the requirement for Natural England mitigation licences.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UKBAP) was launched in 1994 and established a framework and criteria for identifying species and habitat types of conservation concern. From this list, action plans for priority habitats and species of conservation concern were published and have subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 7-23). The UK list of 943 priority species and 56 habitats, however, remains an important reference source and has been used to help draw up statutory lists of priority habitats and species in England, Scotland, Wales and Northern Ireland. For the purpose of this assessment, the UKBAP is still used as one of the criteria to assist in assigning national value to an ecological receptor.

The UK Post-2010 Biodiversity Framework is relevant in the context of Section 40 of the NERC Act 2006 (Ref 7-5), meaning that Priority Species and Habitats are material considerations in planning. These habitats and species are identified as those of conservation concern due to their rarity or a declining population trend.

2.4 Local Biodiversity Action Plan

The Proposed Scheme is located within the county of Buckinghamshire. The Buckinghamshire and Milton Keynes Forward to 2030 Biodiversity Action Plan (BAP) (Ref 7-24), sets out measures that will help to reverse the decline of biodiversity within the area, although focus of the work is primarily on habitats.

3. Methods

3.1 Desk Study

A desk study was undertaken to identify nature conservation designations and protected or notable habitats and species potentially relevant to the Proposed Scheme.

A stratified approach was taken when defining the desk study area, based on the likely zone of influence of the Proposed Scheme on different ecological receptors; and an understanding of the maximum distances typically considered by statutory consultees. Accordingly, the desk study identified international nature conservation designations within 10 km of the Proposed Scheme; other statutory nature conservations designations within 2 km of the Proposed Scheme; and, local non-statutory nature conservation designations, and protected / notable habitats and species within 2 km of the Proposed Scheme.

The desk study was undertaken using the data sources detailed in **Table 3-1**. Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the WCA; Schedules 2 and 4 of the Habitats Regulations; species and habitats of principal importance for nature conservation in England listed under Section 41 (S41) of the NERC Act; and other species that are Nationally Rare, Nationally Scarce or listed in national or local Red Data Lists and Biodiversity Action Plans.

Only records up to ten years old were considered within the desk study, as any records older than ten years are unlikely to be still representative of species presence in the local area.

Table 3-1 Desk study data sources

Data Source	Data Obtained
Multi-Agency Geographic Information for the Countryside (MAGIC) website (Ref 7-25)	International statutory designations within 10 km of the Site Other statutory designations within 2 km of the Site Ancient woodlands and notable habitats within 2 km of the Site
Ordnance Survey 1:2500 Pathfinder maps and aerial photography	Information on habitats and habitat connections (based on aerial photography) relevant to the interpretation of planning policy and assessment of potential protected and notable species constraints.
Buckinghamshire and Milton Keynes Environmental Records Centre (BMKERC)	Sites designated for their nature conservation value, such as, Biological Notification Sites (BNS) and Local Wildlife Sites (LWS) within 2 km of the Site. Protected and notable species within 2 km of the Site (records for the last ten years only).

3.2 Field Survey

Phase 1 Habitat Survey

The Phase 1 Habitat survey was undertaken in accordance with the standard survey method, developed by the Joint Nature Conservation Committee (JNCC) (Ref 7-26). Phase 1 Habitat survey is a standard method of environmental audit. It involves categorising different habitat types and habitat features within a survey area. The information gained from the survey can be used to determine the likely ecological value of a site, and to direct any more specific survey work which may need to be undertaken prior to the submission of a planning application. The standard Phase 1 Habitat survey method can be 'extended' to record target notes on protected, notable and invasive species.

Appraisal of the Potential Suitability of Habitats for Protected and Notable Species

An appraisal was made of the potential suitability of the habitats present to support protected and notable species of plants or animals (as defined by legislation and planning policy in Section 2 of this report). Field signs, habitat features with potential to support protected species and any sightings or auditory evidence were recorded when encountered, but no detailed surveys were undertaken for any particular species.

In addition, specific attention was given to identifying instances of invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (Ref 7-3) and those “widespread species” listed in the Invasive Alien species (Enforcement and Permitting) Order 2019 (Ref 7-11). Locations of plants or stands of any such invasive non-native plant species, if found, were recorded.

3.3 Desk Study and Field Survey Limitations

The aim of a desk study is to help characterise the baseline context of the Proposed Scheme and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitat or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Scheme.

Where habitat boundaries coincide with physical boundaries recorded on OS maps, the resolution is as determined by the scale of mapping. Elsewhere, habitat mapping is as estimated in the field and / or recorded by hand-held Samsung tablets using Collector software. Where areas of habitat are given they are approximate and should be verified by measurement on-site where required for design or construction. While indicative locations of trees are recorded, this does not replace requirements for a detailed specialist arboriculture survey to British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction.

There were no other limitations to the desk study or habitat survey.

4. Results

4.1 Nature Conservation Designations

Statutory Designations

The desk study identified three statutory sites for nature conservation within the study areas set out in **Table 3-1**. These sites, designated for biodiversity reasons, are detailed in **Table 4-1** and are listed in descending order, with those closest to the Proposed Scheme listed first. Site designation details are summarised in **Table 4-1** and are taken from citation documents, published online by the Joint Nature Conservation Committee (JNCC) for the individual sites. The locations of statutory sites are shown in Figure 2 (Appendix A).

Table 4-1 Statutorily Designated Sites within 10 km (international) and 2 km (national) of the Site

Statutory Site Name and Designation	Description	Distance (metres (m)) and direction from closest point of the Site
Sheephouse Wood Site of Special Scientific Interest (SSSI)	A large, well-structured block of ancient Pedunculate Oak woodland. The site has a characteristically diverse woodland flora, a typical range of breeding birds and is of particular interest for its invertebrate fauna which includes notable and local species.	Adjacent to the southern boundary of Site 1
Finemere Wood SSSI	A large ancient pedunculate woodland supporting rich communities of native plants, birds, insects and other animals. In particular the wood contains populations of some local butterflies, including the nationally rare Wood White <i>Leptidea sinapis</i> and Black Hairstreak <i>Satyrrium pruni</i> .	155 m south of Site 2
Grendon and Doddershall Woods SSSI	Grendon and Doddershall Woods constitute an important tract of broadleaved woodland of a kind formerly far more extensive on the clays of north Buckinghamshire. An important feature of both woods is the network of wide rides, some almost permanently wet, and others with ditches. The woods have long been known as a site of exceptional importance for butterflies of which no less than 35 species, some now very rare, have been recorded.	1,360 m to the west of Site 2

Non-statutory Designations

The desk study identified twenty sites non-statutorily designated for nature conservation within 2 km of the Site(s) (as per the method in Section 3.1 of this report). These non-statutory sites have been designated as Local Wildlife Sites (LWS), Berks, Bucks, Oxon Wildlife Trust (BBOWT) reserves, or biological notification sites (BNS) for their biodiversity value at a local level and are known to have supporting value to a wide variety of protected and ecologically important species and / or habitats.

These sites are presented in **Table 4-2** and are listed in descending order of distance from the Site. The locations of these sites are presented in Figure 3 (Appendix B).

Table 4-2 Non-Statutory Designated Sites within 2 km of the Site

Non-Statutory Site Name and Designation	Description	Approximate Distance ((m) / (km)) and direction from closest point of the Site
Decoypond Wood LWS	Small wood with Ancient Woodland indicators.	Adjacent to the western boundary of Site 1
Shrubs Wood LWS	Ancient woodland site, relatively intact, good structure and diversity	Adjacent to the central section of Site 1
Romer Wood LWS	Ancient woodland site, with good structure and rides.	Adjacent to the eastern boundary of Site 1a
Runts Wood LWS	Ancient woodland with high species diversity, including flower-rich damp rides	Adjacent to the western boundary of Site 2
Baltimore Wood LWS	Ancient woodland site with high diversity and uncommon species.	c.7 m south of the grid connection route
Home Wood, Middle Claydon LWS	Wet ancient woodland with good diversity.	60 m east of Site 1
Finemere Wood BBOWT Reserve	Large site comprising of woodland, grasslands and lowland meadow and pasture.	155 m south-west of Site 2
Calvert Railway Station LWS	Old railway station with wet grassland and scattered scrub supports good invertebrate and bird communities and some rare plants.	180 m west of Site 1
Greatsea Wood LWS	Ancient woodland site, with good structure and rides.	200 m east of Site 1a
Calvert Jubilee Nature Reserve LWS / BBOWT reserve	Large site, comprised of wetlands, grassland and woodland. Important site for overwintering wildfowl. Interesting variety of habitats host some rare plants.	370 m west of Site 1
Area North-West of Calvert Brickworks BNS	Rough grassland with wet area towards the lake. Contains Adders <i>Vipera berus</i> , Tongue fern <i>Asplenium scolopendrium</i> , Bee <i>Ophrys apifera</i> and many common spotted orchids. Invertebrate records include Dingy <i>Erynnis tages</i> and Grizzled skippers <i>Pyrgus malvae</i> .	745 m west of Site 1
Track Leading to Railway BNS	Hedges on one side of the track and then on both sides. Suggestion of calcareous rubble beneath track in area of railway bridges. Records include the county uncommon plants Spiny Restharrow <i>Ononis spinosa</i> , Thicket Dog Rose <i>Rosa dumetorum</i> and Dropwort <i>Filipendula vulgaris</i> .	780 m south of Site 1a

Non-Statutory Site Name and Designation	Description	Approximate Distance ((m) / (km)) and direction from closest point of the Site
Calvert Brick Pits, Great Moor Sailing Club LWS	Large site with huge central lake, used for sailing. Very species-rich glades with lots of butterflies. Mosaic of habitats.	990 m west of Site 1
Wood Between Lawn Hill and Dunsty Hill LWS	Small wood with Ancient Woodland indicators.	1.24 km west of Site 1
Redland Bridge, Steeple Claydon BNS	Small river	1.37 km north of Site 1
Grendon Underwood Meadows LWS	Set of consecutive fields support a superb diversity of typical unimproved meadow flowers.	1.46km south-west of Site 1a
Grendon and Doddershall Meadows LWS	Large complex of unimproved meadows supporting a great variety of wildlife, including invertebrates and farm birds.	1.49km south of Site 2
Stonehill Lane LWS	Species-rich hedges line rich grassland areas.	1.82 km east/south-east of Site 2
South Lake, Addington BNS	Small lake just north of the railway. Surrounded by mixed woodland. Small stream flows out of the western corner of the lake. The lake was dug in 1859.	1.94 km north of Site 3
Grassland Near Addington BNS	Field between road and railway with dry and damp grassland habitats. Site includes hollows from clay extraction and tall hedgerows. Includes areas of scrub. Clay extraction has helped sculpt the field surface.	1.95 km north of Site 3

4.2 Habitats

The area surveyed (the survey area) encompassed all safely accessible parts of the Site (and grid connection route), and adjacent habitats to a maximum distance of 50 m, where access permission had been granted in advance of survey, or this land was visible from within the Site boundary or from public rights of way, or other publicly accessible areas.

Typical and notable plant species were recorded for different habitat types and reflect the conditions at the time of survey. This was not intended to be a detailed inventory of the plant species present in the survey area, as this is not required for the purposes of Phase 1 Habitat survey.

The Phase 1 Habitat survey was undertaken on the 13, 14, 15, 21 and 22 September 2021; and 24 and 25 February 2022 (to reflect changes in the red-line boundary received in January 2022) by suitably qualified AECOM ecologists who recorded and mapped all habitat types present within the survey area, along with any associated relevant ecological receptors observed. Where relevant ecological receptors were present, target notes were recorded and the positions of these, where recorded, are shown on Figures 4.1 to 4.3 (Appendix B). Target notes and associated reference photographs are provided in Appendix C.

The broad habitat types present within the Site (Sites 1, 1a, 2 and 3) are detailed below in **Table 4-3**. The approximate extent and distribution of these habitats recorded are shown on Figures 4.1 to 4.3 (Appendix B).

The habitats within the proposed grid connection, as presented in Figures 4.1 to 4.3, are not included in Table 4-3, but predominantly comprise open areas of arable farmland and improved grassland, with ditches / watercourses and hedgerows, also present.

Table 4-3 Broad habitat types within the Site

Broad Habitat Type	Area (ha) / Length (m)			
	Site 1	Site 1a	Site 2	Site 3
A1.1.1 Broad-leaved semi-natural woodland	0.16ha	0.01ha	0.02ha	-
A1.1.2 Broad-leaved plantation woodland	12.77ha	0.15ha	1.12ha	-
A2.1 Scrub – dense / continuous	0.29ha	-	0.07ha	-
B2.2 Neutral Grassland – semi-improved	2.68ha	-	-	-
B4 Improved grassland	29.47ha	1.89ha	7.85ha	19.86ha
B6 Poor semi-improved grassland	0.19ha	4.85ha	4.60ha	-
C3.1 Other tall herb and fen -ruderal	3.69ha	-	1.16ha	-
G1 -Standing water	0.03ha	-	0.07ha	0.01ha
Hard-standing	0.01ha	-	-	-
J1.1 Cultivated / disturbed land – arable	124.26ha	6.40ha	119.16ha	-
J3.6 Buildings	-	-	0.05ha	-
J4 Bare Ground	0.04ha	-	0.10ha	-
J5 – Other habitat	-	1.07ha	-	-
A3.1 Broadleaved parkland / scattered trees	47m	-	-	-
G2 - Running water	160m	78m	698m	131m
J2.1.1 - Intact hedge - native species-rich	1,195m	-	1,326m	-
J2.1.2 - Intact hedge - species-poor	4,349m	501m	3,442m	37m
J2.2.2 - Defunct hedge - species-poor	270m	-	1m	-

Broad Habitat Type	Area (ha) / Length (m)			
	Site 1	Site 1a	Site 2	Site 3
J2.3.1 - Hedge with trees - native species-rich	1,794m	-	1,622m	816m
J2.3.2 - Hedge with trees - species-poor	1,408m	-	966m	-
J2.4 - Fence	1,191m	-	760m	591m
J2.6 - Dry ditch	2,190m	-	705m	205m

Broad-leaved semi natural woodland

There are small sections of this habitat within Site 1 as well as smaller sections within Site 2. This habitat borders Sites 1, 1a and Site 2. Species within these areas identified within the Site included Pedunculate Oak *Quercus robur*, Ash *Fraxinus excelsior*, Hazel *Corylus avellana*, Blackthorn *Prunus spinosa*, Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna* and Willow species *Salix* sp.

Ancient woodland areas (see also Figure 3 in Appendix B) are located adjacent to Sites 1, 1a and 2, some of which are designated as LWS's and are presented in Table 4-2.

Broad-leaved plantation woodland

There are small areas of plantation woodland across the Sites along with the central section of Shrubs Wood within Site 1. Tree species within these woodlands included Pedunculate Oak, Grey Poplar *Populus x canescens*, Ash and Sycamore *Acer pseudoplatanus*.

Areas of broad-leaved plantation woodland on the western end of Site 1 and northern side of Site 1a (see Figure 4.1 in Appendix B), have recently been planted and appear to be part of mitigation works for the adjacent HS2 scheme.

Scrub

This habitat is scattered in small areas across Site 1 and Site 2 consisting of dense Bramble *Rubus fruticosus agg* along with Hawthorn, Blackthorn and Ash.

Semi-improved neutral grassland

Within Site 1, one field has a border of semi-improved neutral grassland with Common Knapweed *Centaurea nigra*, Birdsfoot Trefoil *Lotus corniculatus* and Lady's Bedstraw *Galium verum*. Along the southern boundary of a field in the east of Site 1 is a small strip, species here included Oxeye Daisy *Leucanthemum vulgare*, Soft Brome *Bromus hordeaceus*, White Clover *Trifolium repens*, Common Knapweed, Smooth Tare *Ervum tetraspermum* and Yarrow *Achillea millefolium*.

Improved grassland

There are a number of fields of improved grassland containing livestock and Site 3 is dominated by this habitat. Plants present included Perennial Rye-grass *Lolium perenne*, Dandelion *Taraxacum officinale agg.*, White Clover and Greater Plantain *Plantago major*.

Poor semi-improved grassland

This habitat occurs as small areas across Site 1, species present included Timothy *Phleum pratense*, Cocksfoot, Soft Brome, Yorkshire Fog *Holcus lanatus*, Common Ragwort *Jacobaea vulgaris*, Creeping Thistle and Field Bindweed *Convolvulus arvensis*.

Tall ruderal

There is one large field in the south west of Site 1 which is tall ruderal along with a few small areas of tall ruderal across Site 1 and Site 2. Species within this habitat included Common Nettle *Urtica dioica*, Broad-Leaved Dock *Rumex obtusifolius*, Creeping Thistle, Spear Thistle *Cirsium vulgare*, False Oat-grass *Arrhenatherum elatius*, a Burdock species *Arctium sp*, Bristly Oxtongue *Helminthotheca echioides*, Hogweed *Heracleum sphondylium*, Cocksfoot and Yellow Bristle-grass *Setaria pumila*.

Waterbodies

There are a large number of water bodies within 500 m of the three Sites and some aquatic species recorded within these ponds include Floating Sweet-grass *Glyceria fluitans*, Common Reedmace *Typha latifolia*, Broad-leaved Pondweed *Potamogeton natans*, Common Spike-rush *Eleocharis palustris*, Branched Bur-reed *Sparganium erectum*, Hard Rush *Juncus inflexus*, Soft Rush *Juncus effusus*, Amphibious Bistort *Persicaria amphibia*, Common Duckweed *Lemna minor*, Brooklime *Veronica beccabunga*, Water Plantain *Alisma plantago-aquatica*, Watercress *Nasturtium officinale*, Cyperus Sedge *Carex pseudocyperus*, a Water-Starwort species *Callitriche sp.* and a Stonewort species *Chara sp.*.

Around a number of ponds were swamp habitat consisting of often dense stands of Common Reedmace.

Arable

The majority of the fields across Sites 1, 1a and Site 2 are arable with cereal crops as well as Flax *Linum usitatissimum*.

Hedges

There are many hedges across the Sites from species poor to species rich, the woody species recorded in the hedges included Ash, Hawthorn, Blackthorn, Dog Rose *Rosa canina agg.*, Field Maple, Buckthorn *Rhamnus cathartica*, Hazel, Crab Apple *Malus sylvestris*, Midland Hawthorn *Crataegus laevigata*, a Willow *Salix sp.*, Pedunculate Oak, Elm sp. *Ulmus sp.* and Elder *Sambucus nigra*.

4.3 Notable Habitats

Table 4-4 provides a summary of notable habitats associated with the Proposed Scheme based on the results of the Phase 1 Habitat survey and with reference to guidance for the recognition of NERC Act S41 (Ref 7-5) and the relevant LBAPs, as detailed in Section 2.4 of this report. Further surveys may be required to investigate the value of habitats further, as detailed in Section 5 of this report.

Table 4-4 Notable habitat types within the Site

Habitat	NERC Act	LBAP	Supporting Comments
Ancient and/ or species rich hedgerows	✓	✓	Hedgerows are present across the Sites. Impacts to hedgerows are unlikely to occur and the Proposed Scheme can be designed to avoid potential impacts. However, further investigation will be required to determine the value of individual hedgerows where impacts are likely to occur.
Ancient woodland / Lowland deciduous mixed woodland	✓	✓	Whilst there is ancient woodland and replanted ancient woodland adjacent to the Sites (and small sections within the Sites), no woodland will be directly affected by the Proposed Scheme and suitable buffer zones (>25m) would be part of any embedded mitigation to reduce and remove indirect impacts.
Running water	✓	-	Further investigation will be required to determine the value of any running water habitats.

Habitat	NERC Act	LBAP	Supporting Comments
Standing Open Waters / Ponds	✓	✓	There are twelve water bodies within 500 m of the Site and further investigation will be required to determine their value where impacts are likely to occur.
Arable Field Margins	✓	-	There is potential for scarce arable plants to be present within arable field margins on site and these margins may fulfil the criteria for this priority habitat type. Further investigation will be required to determine the importance of arable field margins.

4.4 Protected and Notable Species

Table 4-5 provides a summary of potentially relevant species identified through a combination of desk study and field survey. The table summarises the conservation status of each species and provides comment on the likelihood of presence.

Where species are identified in **Table 4-5** as likely or possible, they are likely to represent legislative constraints or may be material to determination of the planning application. Further surveys will or may be required to determine presence or probable absence of species (see Section 5).

Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely to be still representative of species presence in the local area.

Table 4-5 Notable Species within the Site

Species (or species group)	Supporting Comments
Flora / plants	The data search returned records of 14 notable species within 2 km of the Site, including Field Gromwell <i>Lithospermum arvense</i> and Dwarf Spurge <i>Euphorbia exigua</i> .
Terrestrial Invertebrates	The data search returned records of 51 species of terrestrial invertebrates which are UKBAP list species and included records of Black Hairstreak <i>Satyrrium pruni</i> and Silver-washed Fritillary <i>Argynnis paphia</i> . During the survey, Brown Hairstreak <i>Thecla betulae</i> was observed within Site 2.
Aquatic Invertebrates	The data search returned no records of aquatic invertebrates. There are aquatic habitats present with the Site (e.g. field ponds) with potential to support notable aquatic invertebrate species and assemblages.
Amphibians	The desk study identified records of Great Crested Newt <i>Triturus cristatus</i> , Common Toad <i>Bufo bufo</i> , Smooth Newt <i>Lissotriton vulgaris</i> and Palmate Newt <i>Lissotriton helveticus</i> returned by the data search within 2 km of the Site. Further investigation of the ponds, relevant to the Proposed Scheme, to determine their potential suitability for Great Crested Newt and other amphibians will be required. Based on publicly available information ¹ , populations of Great Crested Newt are known to occur within land occupied by HS2 and to the immediate west of the Proposed Scheme.
Reptiles	The data search returned Grass Snake <i>Natrix natrix</i> and Common Lizard <i>Zootoca vivipara</i> records within 2 km of the Site.

¹ https://webarchive.nationalarchives.gov.uk/ukgwa/20140806173545/http://assets.dft.gov.uk/hs2-environmental-statement/volume-5/ecology/MB46_VOL5_EC_CFA12_WATERMARKED.pdf

Species (or species group)	Supporting Comments
	Reptile habitat is limited across the Site, but small pockets of habitat suitable for reptiles do exist comprising uncropped field margins, hedgerows, woodland edge habitats and grassland.
Breeding birds	The desk study identified a total of 120 species of bird occurring within 2 km of the Site, including Schedule 1 species such as Red Kite <i>Milvus milvus</i> . Habitats on site are likely to support nesting birds during the breeding season, including species of conservation concern.
Non-breeding (wintering and passage) birds	Trees, scrub and arable fields occurring within the Site have the potential to support birds during the non-breeding season, including those of conservation concern, such as Linnet <i>Linaria cannabina</i> , Redwing <i>Turdus iliacus</i> and Fieldfare <i>Turdus pilaris</i> .
Bats	The data search returned bat records of fourteen species within 2 km, including, Bechstein's bat <i>Myotis bechsteinii</i> , Daubenton's bat <i>Myotis daubentonii</i> and Nathusius' Pipistrelle <i>Pipistrellus nathusii</i> . The network of ancient woodlands within the wider local area that make up the former Bernwood Forest has been well studied and is known to support a diverse and important assemblage of woodland bat species including Bechstein's bat. The area has been subject to a high level of baseline survey work during recent years in support of HS2 Phase 1, including a range of trapping and radiotracking surveys to inform Natural England licensing and subsequent licence monitoring. Habitats on site and in the surrounding area includes trees and woodlands which are likely to support roosting bats. The habitat within the Proposed Scheme also provides moderate suitability for commuting and foraging bats with connecting hedgerows and woodland on site and connected to the wider landscape.
Badger <i>Meles meles</i>	The data search returned 22 records of Badger within 2 km of the Site. Several active and non-active Badger setts as well as field signs of Badger activity were recorded within the Site during the field survey.
Otter <i>Lutra lutra</i>	The data search returned one record of Otter within 2 km of the Site in 2020. The watercourses and water bodies occurring on the Site have the potential to support Otter.
Water Vole <i>Arvicola amphibius</i>	The data search returned no records of Water Vole within 2km of the Site. However, the watercourses and water bodies occurring on the Site have the potential to support Water Vole.
Invasive Non-native Species	The data search returned records of Variegated Yellow Archangel <i>Lamiastrum galeobdolon subsp. argentatum</i> , American Mink <i>Neovison vison</i> , Mandarin Duck <i>Aix galericulata</i> , Bar-headed Goose <i>Anser indicus</i> , Black Swan <i>Cygnus atratus</i> , Common Carp <i>Cyprinus carpio</i> , Ring-necked Parakeet <i>Psittacula krameri</i> , Chinese Water Deer <i>Hydropotes inermis</i> , Wall <i>Cotoneaster Cotoneaster horizontalis</i> , Zander <i>Sander lucioperca</i> , Wels Catfish <i>Silurus glanis</i> , Canadian Waterweed <i>Elodea canadensis</i> , Signal Crayfish <i>Pacifastacus leniusculus</i> , Jenkins' Spire Snail <i>Potamopyrgus antipodarum</i> , Least Duckweed <i>Lemna minuta</i> within 2 km.
Brown Hare <i>Lepus europaeus</i>	The data search returned nine records of Brown Hare, within 2 km of the Site boundary. This species has the potential to occur across the Site within the arable fields.

Species (or species group)	Supporting Comments
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West European Hedgehog <i>Erinaceus europaeus</i>	The data search returned fifteen records of hedgehog within 2km. This species has the potential to occur across the Site within the grassland and scrub habitats.
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Species present on site are those for which recent direct observation or field signs confirmed presence. Species which are possibly present are those for which there is potentially suitable habitat based on the results of the Phase 1 Habitat survey, or this combined with desk study records.

Legally protected species are those listed under Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended); and, Schedules 2 and 4 of The Conservation of Habitat & Species Regulations 2017 (as amended).

Species of Principal Importance as those listed under Section 41 of the NERC Act. Planning Authorities have a legal duty under Section 40 of the same Act to consider such species when determining planning applications.

Other notable species include native species of conservation concern listed in the LBAP (except species that are also of Principal Importance), those that are Nationally Rare, Scarce or Red Data List, and non-native controlled weed species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5. Identification of Ecological Constraints and Recommendations

5.1 Approach to the Identification of Ecological Constraints

Relevant ecological receptors that may represent constraints to the Proposed Scheme, or that provide opportunities to deliver ecological enhancement in accordance with planning policy, are identified in Section 4 of this report.

The NPPF and local planning policy (summarised in Section 2.2 of this report) specify requirements for the protection of features of importance for biodiversity. Planning policy is a material consideration when determining planning applications.

Compliance with planning policy requires that the proposed Scheme considers and engages the following mitigation hierarchy where there is potential for impacts on relevant ecological receptors:

1. Avoidance - actions taken to avoid causing impacts to the environment prior to beginning development (for example, moving the development to a different location).
2. Minimisation - measures taken to reduce the duration, intensity, extent and / or likelihood of the unavoidable environmental impacts caused by development (for example, adapting the development design to minimise impacts).
3. Restoration or rehabilitation - actions taken to repair environmental degradation or damage following unavoidable impacts caused by development.
4. Offsets - measures taken to compensate for any adverse environmental impacts caused by development which cannot be avoided, minimised and / or restored (e.g. including habitat creation to offset losses).

This hierarchy requires the highest level to be applied where possible. Only where this cannot reasonably be adopted should lower levels be considered. The rationale for the proposed mitigation and / or compensation should be provided with planning applications, including sufficient detail to show that these measures are feasible and would be provided.

In pursuance of the objective within the NPPF of providing net gains in biodiversity where possible, consideration should be given to the scope for enhancement as part of the proposed Scheme. This should represent biodiversity gain over and above that achieved through mitigation and compensation. Enhancement could be achieved on and / or off the Site.

The likelihood of the relevant ecological receptors constraining the proposed development has been assessed with reference to the scale described in **Table 5-1**. The higher the importance of the ecological receptor for the conservation of biodiversity at national and local scales, the more likely it is to be a material consideration during determination of the planning application for the proposed development.

There may be scope for ecological enhancement where existing habitat features could be improved or enhanced within the Proposed Scheme as designed, or with only minor amendment to the design of the Proposed Scheme. Ecological enhancement may not be possible where there is little scope to accommodate enhancement within the Proposed Scheme, e.g. due to a lack of utilisable space, or where land is required for essential mitigation. Consideration could be given to enhancing biodiversity in the vicinity of the Site.

Table 5-1 Scale of Constraint to development

Likelihood	Definition
High	An actual or potential constraint that is subject to relevant legal protection and is likely to be a material consideration in determining the planning application (e.g. statutory nature conservation designations and European/nationally protected species). Further survey likely to be required (as detailed in this report) to support a planning application.

Likelihood	Definition
Medium	An actual or potential constraint that is covered by national or local planning policy and, depending on the level of the potential impact as a result of the proposed development, may be a material consideration in determining the planning application. Further survey may be required (as detailed in this report) to support a planning application.
Low	Unlikely to be a constraint to development or require further survey prior to submission of a planning application. Mitigation is likely to be covered under Construction Environmental Management Plan (CEMP) or precautionary working method statement (e.g. generic requirements for the management of nesting bird risks).

5.2 Constraints and Requirements for Further Survey: Designations

Statutory Designated Sites

The desk study identified three statutory sites for nature conservation within the study areas set out in Section 3.1 and presented in **Table 4-1**.

All three statutory sites are SSSIs, designated for woodland habitats and the Proposed Scheme sits within the SSSI Impact Risk Zones¹ of these three statutory sites.

The Proposed Scheme will not result in any direct impacts (*i.e.* through habitat loss) to these SSSIs, but there is the potential for indirect impacts (*e.g.* from lighting, noise or air quality) during construction, operation and decommissioning. Indirect impacts will need to be assessed fully when details of the Proposed Scheme are developed and suitable management plans will need to be prepared (such as a Construction and Environmental Management Plan (CEMP)) to ensure best practice guidance is followed during all phases (*e.g.* construction, operation and decommissioning) of the Proposed Scheme and to ensure direct and indirect impacts do not occur.

Non-statutory Sites

The desk study identified twenty non-statutory sites designated for nature conservation within the study area set out in Section 3.1 of this report and presented in **Table 4-2**. Of these, four LWSs (Decoypond LWS, Shrubs Wood LWS, Romer Wood LWS and Runts Wood LWS) are adjacent to the Site boundary, one site (Baltimore Wood LWS) lies 7m to the south of the grid connection route and one site (Home Wood, Middle Claydon LWS) is within 60m of Site 1. These LWSs are designated for ancient woodland and no direct impacts to these sites will occur, however, a minimum no build buffer of at least 25m will need to be applied where these LWS's are adjacent to the Site boundary to protect the woodland and trees within these designated sites. To prevent accidental ingress of construction traffic and personnel into these LWSs, it is recommended that heras fencing is erected along the boundary of these LWSs.

There is potential for indirect impacts during construction, to these LWSs through disturbance to species or degradation of habitats associated with the LWSs. Therefore, avoidance and mitigation of any potential effects to off-site habitats will be formalised through implementation of a CEMP and / or precautionary working method statement and indirect impacts will need to be assessed fully when details of the Proposed Scheme are developed.

Direct impacts to any of the 14 non-statutory sites beyond 150m from the Site will not occur, owing to the distance between these LWSs and the Site. Furthermore, the implementation of a CEMP and / or precautionary working method statement will be required to ensure any indirect impacts do not occur.

5.3 Constraints and Requirements for Further Survey: Habitats

Notable habitats within the Site, potentially affected by the Proposed Scheme include arable field margins, ponds, hedgerows and woodland as identified in **Table 4-4**. Further investigation of these habitats is required to determine their quality and extent and whether they meet the relevant criteria to qualify as suitable priority habitats. As such, further surveys (*e.g.* of hedgerows and arable flora / arable

¹ <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::sssi-impact-risk-zones-england/explore?location=51.911231%2C-0.919020%2C14.00>.

field margins) will need to be undertaken across the Site to help determine this and within areas where impacts cannot be avoided.

The Proposed Scheme will avoid, protect and retain notable habitats where practicable and offsets of at least 25m from existing boundary features (woodlands, individual trees and trees occurring within hedgerows), will need to be included in the design (in line with local planning policy) and a minimum of 5 m from hedgerows without trees. A minimum offset of 10m from the banks of the watercourses will be required (as per Environment Agency guidelines and to protect riparian habitats) and at least 20m from water bodies (such as ponds) to protect aquatic habitats.

Furthermore, tree Root Protection Zones will be erected around retained trees, in line with British Standard BS 5837: Trees in relation to design, demolition and construction – Recommendations (BSI, 2012).

A Landscape and Biodiversity Management Plan (or similar document) and Biodiversity Net Gain (BNG) Assessment will be required to integrate green infrastructure and biodiversity into the Proposed Scheme to meet requirements under the NPPF and Local Planning Policy.

5.4 Constraints and Requirements for Further Survey: Species

Flora

Some habitats within the Proposed Scheme have the potential to support notable flora species, such as those associated arable field margins. Further investigation of these habitats is required to determine the presence of notable plant species. As such, further Phase 2 botanical surveys will be required for the Proposed Scheme to identify species and any areas of notable flora communities.

Terrestrial Invertebrates

The Proposed Scheme comprise habitats that may support protected and notable terrestrial invertebrates or invertebrate communities, identified as being present within the wider Zone of Influence during the desk study. Based on the habitats and species recorded during the desk study, any potentially important habitats (*i.e.* woodland, woodland edge, hedgerows and arable margins) that are likely to support species such as Black Hairstreak or Silver-washed Fritillary are unlikely to be impacted by the Proposed Scheme and would be suitably buffered to avoid impacts to invertebrates.

Whilst the majority of habitats will be retained and buffered, a survey to determine the potential for protected or notable terrestrial invertebrate species or communities to be present will be required. This will determine the requirement for any further targeted surveys to establish the presence of particular species or hotspots for terrestrial invertebrate assemblages.

Aquatic Invertebrates

There are some aquatic habitats present with the Sites (such as ponds and ditches) that have the potential to support notable aquatic invertebrate species and assemblages.

Further investigation of these watercourses and water bodies will be required to determine the presence of notable aquatic invertebrate species and assemblages.

Amphibians

The desk study identified approximately 84 water bodies within 500m of the Site (see Figure 5, Appendix B). The data search returned records of Great Crested Newt and other amphibians (Common Frog, Common Toad and Smooth Newt) occurring within 2km of the Site.

Further investigation of the waterbodies that are within or close to the Site will be required where potential impacts are likely as a result of the Proposed Scheme in relation to Great Crested Newt. In the first instance, a Habitat Suitability Index (HSI) assessment will be undertaken to categorise the suitability of the waterbodies for Great Crested Newt. Following this, where water bodies are identified as being suitable to support Great Crested Newt, then further surveys (eDNA presence / absence surveys) of those water bodies will be required to determine presence or absence of Great Crested Newt. eDNA surveys can only be undertaken between mid-April and the end of June. If presence of Great Crested Newt is confirmed in water bodies through eDNA, then further surveys will be needed to

determine the size of the population present and inform the assessment of the potential impacts of the Proposed Scheme on Great Crested Newt. Such surveys can only be undertaken between early April and June, however, two surveys must be undertaken on each water body between mid-April and mid-May (the peak season for Great Crested Newt).

Reptiles

The data search returned records of Grass Snake and Common Lizard within 2 km of the Site. Habitat potentially suitable to support reptiles was recorded on Site including streams and ditches for Grass Snake as well as grassland areas suitable for Common Lizard. Therefore, further surveys, following standard guidelines, will be required to determine the presence or absence of reptiles in areas of the most suitable habitat. Depending on the outcomes of these surveys, mitigation may be required to avoid injuring or harming reptiles.

Birds

Trees, scrub and arable fields occurring across the Site have the potential to support protected and notable nesting birds during the breeding season, including those of conservation concern. The Proposed Scheme will result in the direct loss of arable habitat used by notable bird species, particularly ground-nesting farmland birds such as Skylark *Alauda arvensis*. Further surveys of the general breeding bird assemblage, including targeted surveys for Schedule 1 species such as Red Kite and Barn Owl, will be required to determine the magnitude of impacts of the Proposed Scheme on the breeding bird assemblage and help define appropriate mitigation.

Surveys to determine the non-breeding (wintering) assemblages on Site commenced in October 2021 and were completed in March 2022. Any un-surveyed areas, as a result of changes to the red-line boundary, will need to be surveyed between October 2022 and March 2023.

Bats

The data search returned bat records of fourteen species within 2km of the Site and populations of Bechstein's bats are known to occur close to and within the Site. Therefore, woodland areas (including plantation woodland) are of high sensitivity to roosting bats. Given the proximity of HS2 to the Proposed Scheme (to the immediate west of Site 1), effort should be made to gain access to the relevant datasets for bats to identify areas of key interest and potential constraint.

The field survey identified numerous trees that have suitable features to support bat roosts as well as other woodlands close to the Site with suitable roosting habitats. It is recommended that a minimum buffer of 25m is created between the Proposed Scheme and these habitats (in line with local planning policy), concordant with the requirements for avoidance of woodland habitats. Further surveys (a preliminary roost assessment (PRA)) to determine the presence of potential roost features is required and if any trees or woodlands are impacted by the Proposed Scheme, then presence / absence surveys will also be required to determine whether such features support roosting bats. The findings of these surveys will inform any mitigation requirements for roosting bats. Buffer zones around roosts or potential roosts is also recommended (>25m from the roost feature as per recommendations for offsets from woodland and trees), in accordance with local planning policy for the avoidance of trees and woodland (see also Section 2.2).

Bat activity transect surveys for a low-moderate suitability site will be required to determine species and flight paths across the Site to assess potential impacts of the Proposed Scheme on foraging and commuting bats.

Badger

The field survey recorded Badger activity within the Site.

Owing to legislative provisions under the Protection of Badger Act 1992, further surveys (following standard guidelines) are required to determine the full extent of Badger presence across the Site and in the wider zone of influence (up to 30m from the Site). The findings of these surveys will determine the potential constraints and whether mitigation and/or relevant licences are required to avoid impacts to Badgers or their setts.

Otter and Water Vole

The data search returned one record of Otter within 2km of the Proposed Scheme, but no records of Water Vole.

The watercourses and water bodies on Site have the potential to support both Water Vole and Otter. The Proposed Scheme should seek to avoid drainage ditches and any other watercourse on Site, leaving a minimum working distance of 10m from the edges of watercourses (or water bodies) to avoid disturbance to Otter and Water Vole.

To ensure adequate baseline information on the presence, or otherwise, of Otter and Water Vole occurring on the Site, further surveys of all water bodies and watercourses within the Site for Water Vole and Otter, along with the potential for Mink *Neovison vison* will be required. The results of these surveys will identify whether mitigation is required should the Proposed Scheme result in direct loss of habitats used by Water Vole and, or, Otter or indirect impacts to these species (if present).

Non-native Invasive Species

The data search returned records of Variegated Yellow Archangel, American Mink, Mandarin Duck, Bar-headed Goose, Black Swan, Common Carp, Ring-necked Parakeet, Chinese Water Deer, Wall Cotoneaster, Zander, Wels Catfish, Canadian Waterweed, Signals Crayfish, Jenkins' Spire Snail, Least Duckweed which are within 2 km from the Site. No invasive non-native species (INNS) were recorded on the Site during the Phase 1 survey. No formal surveys for invasive species are recommended, but any presence should be noted during other ecological surveys of the Site. If found to be present, biosecurity measures will need to be put in place during construction to prevent the spread of INNS into and away from the Proposed Scheme. An INNS management plan should also be produced to establish the approach to management and eradication of INNS found to be present.

Other priority species

Records of Brown Hare and Hedgehog were received during the data search and these species are likely to be present on site. Brown Hare and Hedgehog receive limited legal protection but are Species of Principal Importance on S41 of the NERC Act.

It is recommended that the Proposed Scheme is planned to take account of likely mitigation requirements for these species during all phases of the Proposed Scheme. This will include timing of any site clearance (e.g. during construction) to avoid Brown Hare during their breeding season. This is concordant with the requirements for nesting birds. As such, it is recommended that site clearance and preparatory works would be undertaken over the autumn / winter period between September and February.

6. Conclusions

Overall, the PEA identified notable habitats and species as detailed in Sections 4.3 and 4.4 of this report.

A summary appraisal of ecological constraints and recommended further requirements is presented in **Table 6-1** below.

Table 6-1 Summary appraisal of features of ecological constraints and recommended further requirements

Receptor	Scale of constraint	Further requirements	Number of survey visits required	Survey period	Driver	When is action likely to be required?		
						To inform design	Before planning application	Pre-construction
Designated Sites	High	No direct impacts (habitat loss) would occur to designated Sites as all are outside of the Proposed Scheme. However, appropriate buffers will need to be included within the design to protect indirect impacts from occurring (see also Section 5.2)	N/A	N/A	Habitat Regulations (2017) WCA 1981,	✓	✓	✓
Habitat – condition assessment, River Morph surveys to inform Biodiversity Net Gain Assessment	Medium / High	A survey to determine the condition of habitats and any other assessments required (such as River Morph surveys) to inform the BNG Assessment.	Initially one survey visit to each water body	May to August	Environment Act 2021	✓	✓	✓
Habitat / Plants /- Phase 2 surveys / Hedgerows	Medium / High	A Phase 2 botanical survey and arable plant survey to identify the presence and extent of any potential notable habitats and protected/notable plant species. The surveys will focus on potential priority habitat within the Proposed Scheme. Arable plant surveys will involve walking field boundaries and comparable areas of marginal habitat only. Hedgerow Surveys required where impacts are likely to occur.	Two survey visits	May to August	WCA 1981, LBAP, UKBAP, NERC Act 2006	✓	✓	✓
Aquatic Habitats	Medium	A scoping assessment of any aquatic habitats potentially directly or indirectly affected by the Proposed Scheme. This will include an assessment of the potential for aquatic habitats to support protected/notable species.	Initially one survey visit followed by targeted species surveys, where required.	May to October	LBAP, UKBAP, NERC Act 2006	✓	✓	✓

Receptor	Scale of constraint	Further requirements	Number of survey visits required	Survey period	Driver	When is action likely to be required?		
						To inform design	Before planning application	Pre-construction
		Surveys of selected field ponds and potentially watercourses are likely to be required and will be determined following the scoping survey.						
Terrestrial Invertebrates	Medium / High	A scoping survey to assess the potential of areas within the Site boundary to support protected or notable invertebrate species and assemblages (Depending on the outcomes of these surveys further targeted survey may be required).	One survey visit	April to May	WCA 1981, NERC Act 2006	✓	✓	✓
Great Crested Newt	High	Undertake Habitat Suitability Index (HSI) assessment of all waterbodies within 500m (where accessible) for their suitability to support Great Crested Newt. Following this, surveys to determine presence or absence of Great Crested Newt within suitable waterbodies (either by eDNA or 4 survey visits at night). Depending on the outcomes of these surveys further surveys are required to determine the population size and evidence of breeding may be required).	One survey visit for HSI assessment, followed by presence/absence survey (eDNA or 4 survey visits) and then up to a total of 6 survey visits for population survey.	HSI - anytime of year eDNA / population surveys – April to June	Habitat Regulations (2017), WCA 1981, NERC Act 2006, UKBAP, LBAP	✓	✓	✓
Reptiles	Medium	Surveys to identify the presence or absence of reptile species across suitable habitats within the Site.	One survey visit to place the reptile refugia followed by seven survey visits to check for reptiles.	April to June and / or September to October.	WCA 1981, LBAP, UKBAP, NERC Act 2006	✓	✓	✓
Breeding birds	Medium / High	Surveys required to determine the breeding bird assemblage across the	Six survey visits for a territory mapping survey and to determine presence, or	March to June.	Birds Directive, WCA 1981, LBAP,	✓	✓	✓

Receptor	Scale of constraint	Further requirements	Number of survey visits required	Survey period	Driver	When is action likely to be required?		
						To inform design	Before planning application	Pre-construction
		Proposed Scheme, including species listed on WCA Sch. 1.	absence, of species listed on Schedule 1 of the WCA		UKBAP, NERC Act 2006			
Non-breeding birds	Medium / High	Surveys required to determine the non-breeding (wintering) bird assemblage across the Proposed Scheme.	Six survey visits.	October to March.	Birds Directive, WCA 1981, LBAP, UKBAP, NERC Act 2006	✓	✓	✓
Bats	High	Surveys to identify potential features on trees and buildings that may support bat roosts (Depending on the findings of this survey and risk to these features, further surveys may be required to determine whether bats are present). Transect surveys and deployment of static detectors to identify important areas across the Proposed Scheme used by commuting and foraging bats.	One survey visit to undertake preliminary roost feature assessment across the Proposed Scheme. Activity surveys required between April and October, including the deployment of static detectors.	Anytime of year for PRA. May to September (if required) to characterise roost. April to October for activity surveys.	Habitat Regulations (2017), WCA 1981, LBAP, UKBAP, NERC Act 2006	✓	✓	✓
Otter	Medium / High	Undertake a presence / absence survey for both species on watercourses that may be affected by the Proposed Development.	Two survey visits	April and July	WCA 1981	✓	✓	✓
Water vole	Medium / High	Undertake a presence / absence survey for both species on watercourses that may be affected by the Proposed Development.	Two survey visits	April and July	WCA 1981	✓	✓	✓
Badger	Medium / High	Survey to record all evidence of Badger activity across the Proposed	One survey visit.	Any time of year	Protection of Badger Act 1992	✓	✓	✓



Receptor	Scale of constraint	Further requirements	Number of survey visits required	Survey period	Driver	When is action likely to be required?		
						To inform design	Before planning application	Pre-construction
		Scheme to identify setts to avoid or that require mitigation.						
Invasive Non-native Species	High	No further investigation is required. If located a management plan should be produced to manage and eradicate where required.	Ongoing.	April to September	WCA 1981	✓	✓	✓
Hedgehog, Brown Hare	Low	No further survey required, but mitigation and enhancement delivered as part of the Proposed Scheme should look to avoid disturbance to these species, retain habitats and ensure that connectivity is maintained throughout the Proposed Scheme and into the wider area. All species are likely to benefit from a reduction in intensively managed agricultural land.	N/A	-	NERC Act 2006	✓	✓	✓

7. References

- Ref 7-1 CIEEM. (2017) Guidelines for Preliminary Ecological Appraisal.
http://www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/GPEA/GPEA_April_20_
- Ref 7-2 British Standards Institution. (2013) BSI Standards Publication 42020:2013. Biodiversity – Code of practice for planning and development.
- Ref 7-3 HMSO. (1981). Wildlife & Countryside Act 1981 (as amended).
<https://www.legislation.gov.uk/ukpga/1981/69>.
- Ref 7-4 HMSO. (2000). Countryside and Rights of Way Act 2000.
<https://www.legislation.gov.uk/ukpga/2000/37/contents>.
- Ref 7-5 HMSO. (2006). Natural Environment and Rural Communities Act 2006.
<https://www.legislation.gov.uk/ukpga/2006/16/contents>.
- Ref 7-6 HMSO. (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London. <http://www.legislation.gov.uk/ukksi/2017/1012/contents/made>.
- Ref 7-7 HMSO. (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. <https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents>.
- Ref 7-8 HMSO. (1992). Protection of Badgers Act 1992.
<https://www.legislation.gov.uk/ukpga/1992/51/contents>.
- Ref 7-9 HMSO. (1997). Hedgerow Regulations 1997.
<http://www.legislation.gov.uk/ukksi/1997/1160/contents/made>.
- Ref 7-10 HMSO. (2017). The Water Environment (Water Framework Directive) (England and Wales) Regulations
<https://www.legislation.gov.uk/ukksi/2017/407/contents/made>.
- Ref 7-11 HMSO. (2019). The Invasive Alien Species (Enforcement and Permitting) Order 2019
<https://www.legislation.gov.uk/ukksi/2019/527/contents/made>.
- Ref 7-12 HMSO (2021). The Environment Act. Available at:
<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
- Ref 7-13 National Planning Policy Framework 2021. Available at:
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>.
- Ref 7-14 Department of Energy and Climate Change (DECC), (2011) National Policy Statement for Energy (EN-1), Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> [Date Accessed: November 2021].
- Ref 7-15 DECC (2021). Draft Overarching National Policy Statement for Energy (EN-1). Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf.
- Ref 7-16 DECC (2021) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015236/en-3-draft-for-consultation.pdf [Date Accessed: November 2021].
- Ref 7-17 DECC (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5), Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> [Date Accessed: November 2021].
- Ref 7-18 DECC (2021). Draft National Policy Statement for Electricity Networks Infrastructure (EN-5),
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015238/en-5-draft-for-consultation.pdf.

- Ref 7-19 Buckinghamshire Council (2020) Local Plan
<https://www.buckinghamshire.gov.uk/planning-and-building-control/local-development-plans/local-development-scheme/plans-we-will-work-on/>.
- Ref 7-20 Buckinghamshire Council (2021) Vale of Aylesbury Local Plan (adopted 2013-2033)
<https://www.aylesburyvaledc.gov.uk/sites/default/files/VALP/AppendixA/Adopted%20Vale%20of%20Aylesbury%20Local%20Plan%201.pdf>.
- Ref 7-21 HMSO. (2018). A Green Future: Our 25 Year Plan to Improve the Environment.
Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf.
- Ref 7-22 Natural England and the Department for Environment, Food and Rural Affairs (2016)
Protected species: how to review planning applications.
<https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>.
- Ref 7-23 UK Post-2010 Biodiversity Framework. Joint Nature Conservation Committee and Department for Environment, Food and Rural Affairs (2012).
http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf.
- Ref 7-24 Natural Environment Partnership. (2020). Forward to 2030: Biodiversity Action Plan. [Forward to 2030 – Buckinghamshire & Milton Keynes Natural Environment Partnership \(bucks.mknep.co.uk\)](https://www.bucks.mknep.co.uk/).
- Ref 7-25 GOV.UK (2021) Multi-Agency Geographic Information for the Countryside
<https://magic.defra.gov.uk/>.
- Ref 7-26 Joint Nature Conservation Committee (2010). Handbook for phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough.
- Ref 7-27 Froglife. (1999) Froglife Advice Sheet 10: Reptile survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife, London.
- Ref 7-28 Natural England. (2015). Reptiles: surveys and mitigation for development projects. Available at: <https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences> (Accessed June 2020).

Appendix A: Legislation and Policy

The Conservation of Habitats & Species Regulations 2017 (as amended)

The Habitats Regulations consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30th October 1994. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.

The Regulations provide for the designation and protection of 'European Sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

Under the Regulations, competent authorities *i.e.* any Minister, Government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive.

The Regulations place a duty on the Secretary of State to propose a list of Sites which are important for either habitats or species (listed in Annexes I and II of the Habitats Directive respectively) to the European Commission. Once the Commission and EU Member States have agreed that the Sites submitted are worthy of designation, they are identified as Sites of Community Importance (SCIs). The EU Member States must then designate these Sites as Special Areas of Conservation (SACs) within six years. The Regulations also require the compilation and maintenance of a register of European Sites, to include SACs and Special Protection Areas (SPAs) classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These Sites form a network termed Natura 2000.

The Regulations enable the country agencies to enter into management agreements on land within or adjacent to a European Site, in order to secure its conservation. If the agency is unable to conclude such an agreement, or if an agreement is breached, it may acquire the interest in the land compulsorily. The agency may also use its powers to make byelaws to protect European Sites. The Regulations also provide for the control of potentially damaging operations, whereby consent from the country agency may only be granted once it has been shown through Appropriate Assessment that the proposed operation will not adversely affect the integrity of the Site. When considering potentially damaging operations, the country agencies apply the precautionary principle' *i.e.* consent cannot be given unless it is ascertained that there will be no adverse effect on the integrity of the Site.

In instances where damage could occur, the appropriate Minister may, if necessary, make special nature conservation orders, prohibiting any person from carrying out the operation. However, an operation may proceed where it is or forms part of a plan or project with no alternative solutions, which must be carried out for reasons of overriding public interest. In such instances the Secretary of State must secure compensation to ensure the overall integrity of the Natura 2000 system. The country agencies are required to review consents previously granted under the Wildlife and Countryside Act 1981 for land within a European Site, and may modify or withdraw those that are incompatible with the conservation objectives of the Site.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Regulations make special provisions for the protection of European marine Sites, requiring the country agencies to advise other authorities of the conservation objectives for a Site, and also of the operations which may affect its integrity. The Regulations also enable the establishment of management

schemes and byelaws by the relevant authorities and country agencies respectively, for the management and protection of European marine Sites.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is the major domestic legal instrument for wildlife protection in the UK, and is the primary means by which the following are implemented:

- The Convention on the Conservation of European Wildlife and Natural Habitats ('the Bern Convention'); and The Council Directive 79/409/EEC on the Conservation of Wild birds (the 'Bird Directive')

Wild Birds

The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird,
- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
- take or destroy an egg of any wild bird.

Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The Act also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

Other Animals

The Act makes it an offence (subject to exceptions) to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Flora, Fungi and Lichens

The Act makes it an offence (subject to exceptions) to intentionally pick, uproot or destroy:

- any wild plant listed in Schedule 8, or
- unless an authorised person, to intentionally uproot any wild plant not included in Schedule 8,
- to sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Non-native Species

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

Countryside and Rights of Way (CRoW) Act 2000

The Countryside and Rights of Way Act 2000 applies to England and Wales only. Part III of the Act deals specifically with wildlife protection and nature conservation.

The Act places a duty on Government Departments and the National Assembly for Wales to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

Schedule 9 of the Act amends the SSSI provisions of the Wildlife and Countryside Act 1981, including increased powers for their protection and management of SSSIs. The provisions extend powers for entering into management agreements; place a duty on public bodies to further the conservation and enhancement of SSSIs; increase penalties on conviction where the provisions are breached; and include an offence whereby third parties can be convicted for damaging SSSIs.

Schedule 12 of the Act amends the species provisions of the Wildlife and Countryside Act 1981, strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable', include an offence of reckless disturbance, confer greater powers to police and wildlife inspectors for entering premises and obtaining wildlife tissue samples for DNA analysis, and enable heavier penalties on conviction of wildlife offences.

Natural Environment and Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act required the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list was drawn up in consultation with Natural England, as required by the Act.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the (now withdrawn) UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and subtidal sands and gravels.

There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the (now withdrawn) UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.

Protection of Badgers Act 1992

Badgers and their setts (burrows) are protected under the Act. This makes it an offence to kill or take a badger, to cruelly ill-treat a badger, or to interfere with a badger sett, including disturbing a badger while it is occupying a sett.

Licences to permit otherwise prohibited actions can be granted under section 10 of the Act for various purposes. This includes licences to interfere with a badger sett for the purpose of development as defined by section 55(1) of the Town and Country Planning Act 1990.

Licences may be granted in order to close down setts, or parts of setts, prior to development or to permit activities close to a badger sett that might result in disturbance. A licence will be required if a sett is likely to be damaged or destroyed in the course of development or if the badger(s) occupying the sett will be disturbed.

Licences can be applied for at any time, but a licence for development will not normally be issued unless full planning permission has been granted. The closure of setts under licence is normally only permitted during July to November, inclusive.

The Hedgerow Regulations 1997

The intention of the Act is to protect important countryside hedges from destruction or damage. The Act does not apply where planning permission has been granted. There are various other exemptions under the Act, including:

- To make a new opening in substitution for an existing one that gives access to land. For example, a gate. However, the old opening must be filled in within 8 months;
- To obtain access to land where other means are not available or are only available at disproportionate cost;
- For the proper management of the hedgerow. This means real management, such as coppicing. But if the hedgerow is deliberately 'over-managed' this might qualify as removal.

If the proposed works are not exempt or subject to a current planning permission then the landowner must serve a Hedgerow Removal Notice in writing on their local planning authority. The authority then has 42 days (which period can be extended if the applicant agrees) to determine whether or not the hedge is considered 'important' under the regulations, and if so, whether or not to issue a Hedgerow Retention Notice. The local authority does not have to issue a Retention Notice, even if the hedgerow counts as important. If they do not issue a notice for an important hedge this is often on condition that certain things are done, e.g. reinstatement or replanting to a certain standard, or creation of an equivalent boundary elsewhere.

Water Framework Directive (WFD) 2017

The Water Framework Directive (WFD) (2000/60/EC) introduced a comprehensive river basin management planning system to help protect and improve the ecological health of our rivers, lakes, estuaries and coastal and groundwaters. This is underpinned by the use of environmental standards to help assess risks to the ecological quality of the water environment and to identify the scale of improvements that would be needed to bring waters under pressure back into a good condition.

The Environment Act 2021

The Environment Act was originally published by the UK Government in October 2019 and was granted Royal Assent in November 2021.

The Environment Act 2021 sets out the UK Government's objectives to restore natural habitats and increase biodiversity. In addition, the Environment Act includes provisions to make biodiversity net gain a mandatory requirement within the planning system in England. Amendments to the Town and Country Planning Act, anticipated to occur in 2023, will require all relevant developments to achieve a minimum 10% net gain in biodiversity units relative to the site's baseline biodiversity value.

National Planning Policy Framework

Section 15 of the NPPF relates specifically to 'Conserving and Enhancing the Natural Environment'. Relevant paragraphs from Section 15 are as follows:

Paragraph 174 states that '*Planning policies and decision should contribute to and enhance the natural and local environment by:*

- *protecting and enhancing valued, landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, where possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*

- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate*.

Paragraph 175 states that *'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries'*.

Paragraph 179 states that *'To protect and enhance biodiversity and geodiversity, plans should:*

- *identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*'.

Paragraph 180 states that *'When determining planning application, local planning authorities should apply the following principles:*

- *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly*
- *outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate*'.

Paragraph 181 states that: *'The following should be given the same protection as habitats sites:*

- *potential Special Protection Areas and possible Special Areas of Conservation;*
- *listed or proposed Ramsar sites; and*
- *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites*'.

Paragraph 182 states that *'The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site*'.

Appendix B: Figures

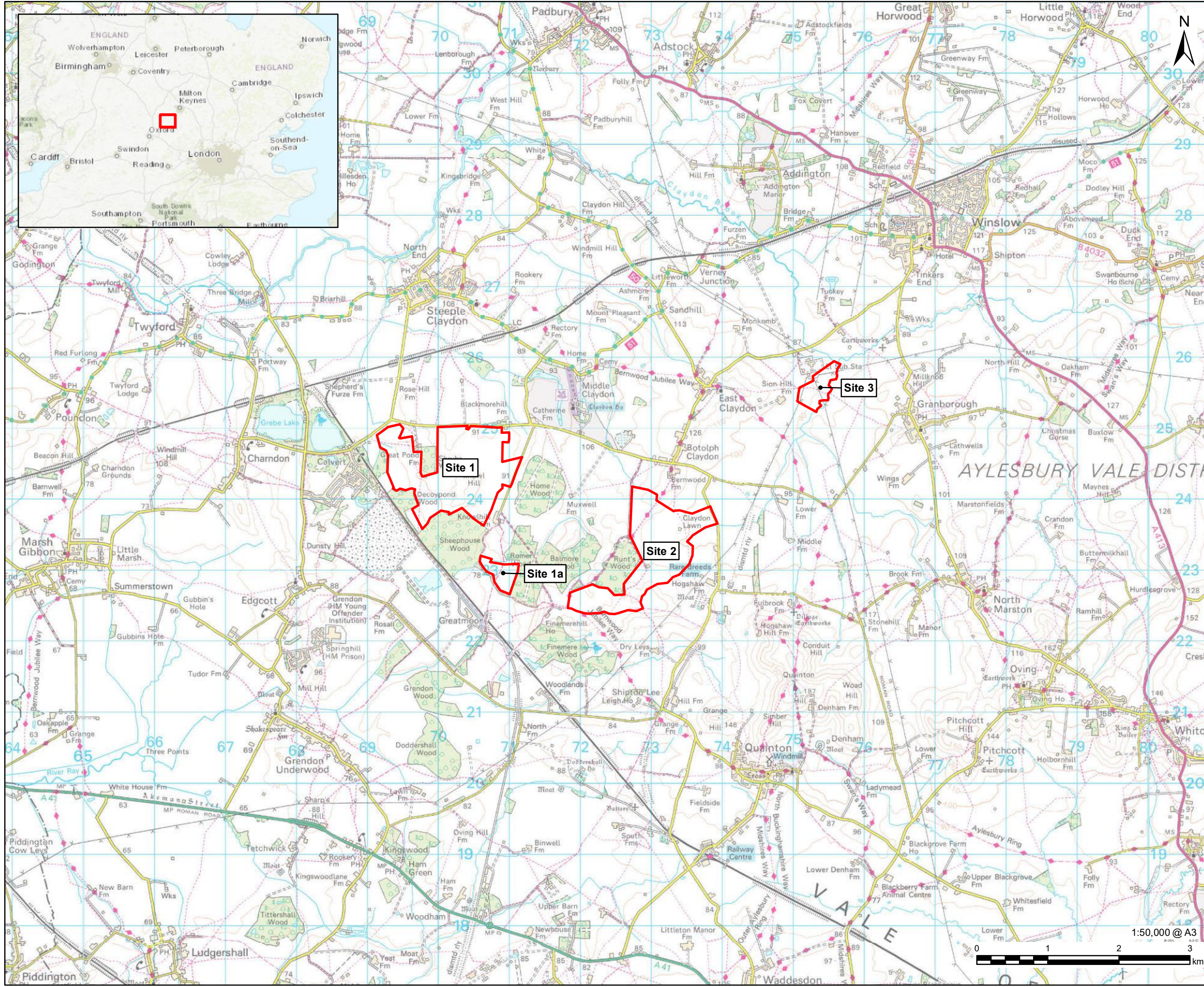
Figure 1 - Site location

Figure 2 Sites statutorily designated for nature conservation value

Figure 3 Non statutory sites designated for nature conservation value

Figure 4.1 to 4.3 Phase 1 habitat map

Figure 5 Waterbodies within 500m of the Proposed Scheme



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CLIENT
Rosefield EnergyFarm Limited

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Unit 1 Wellbrook Court,
Girton, Cambridge,
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LEGEND
Site boundary

NOTES
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For Information

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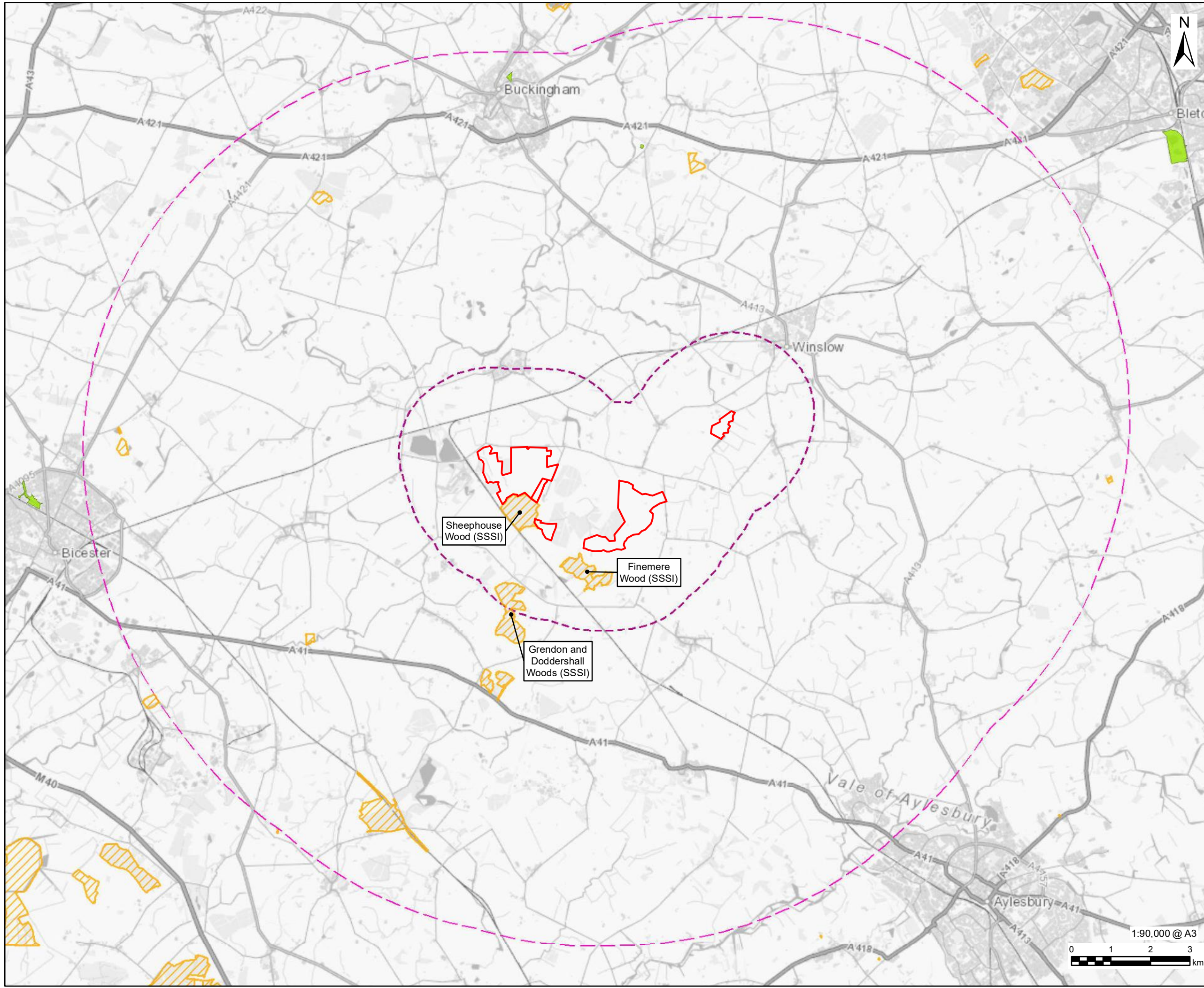
FIGURE TITLE
Site Location

FIGURE NUMBER
Figure 1

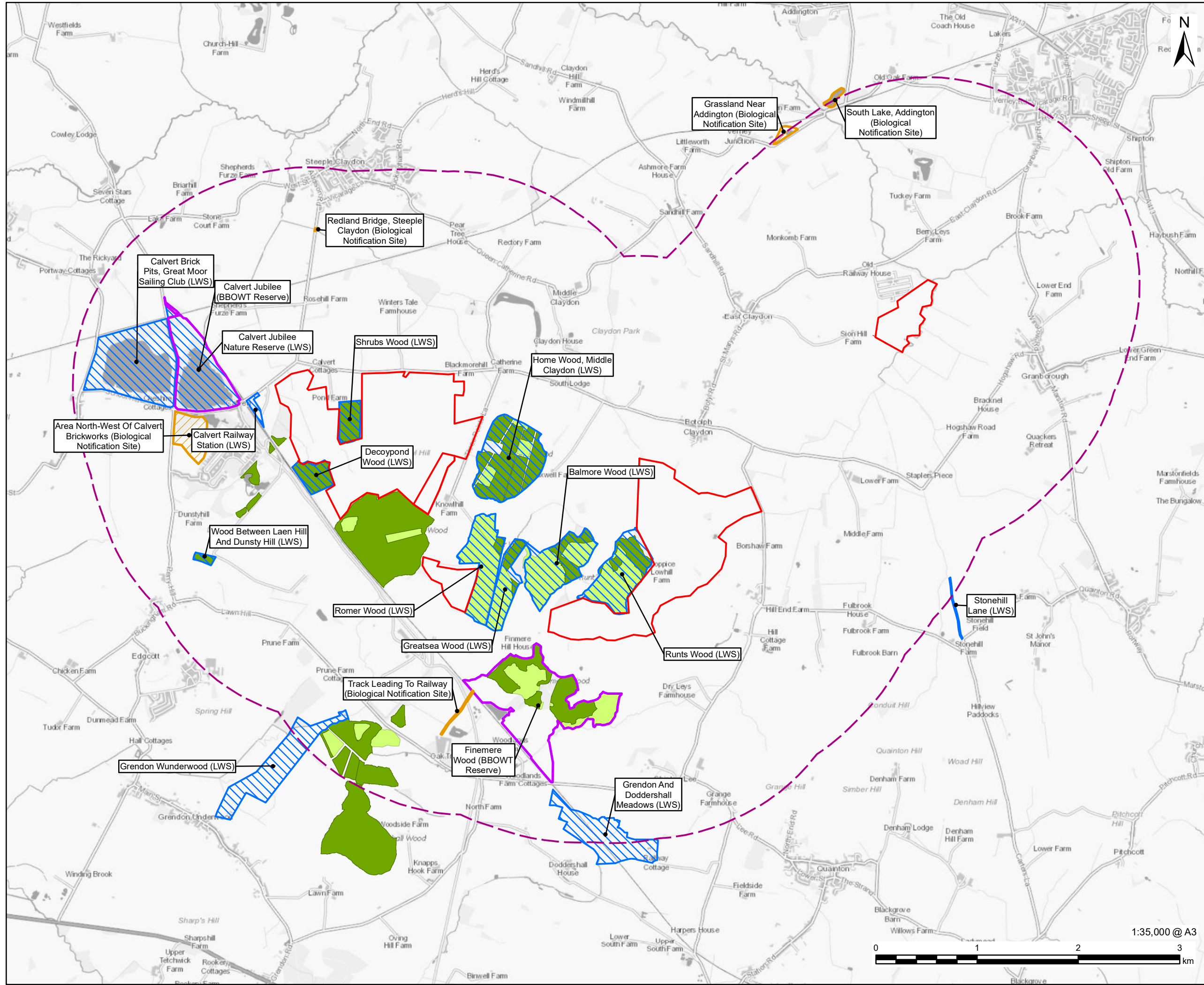
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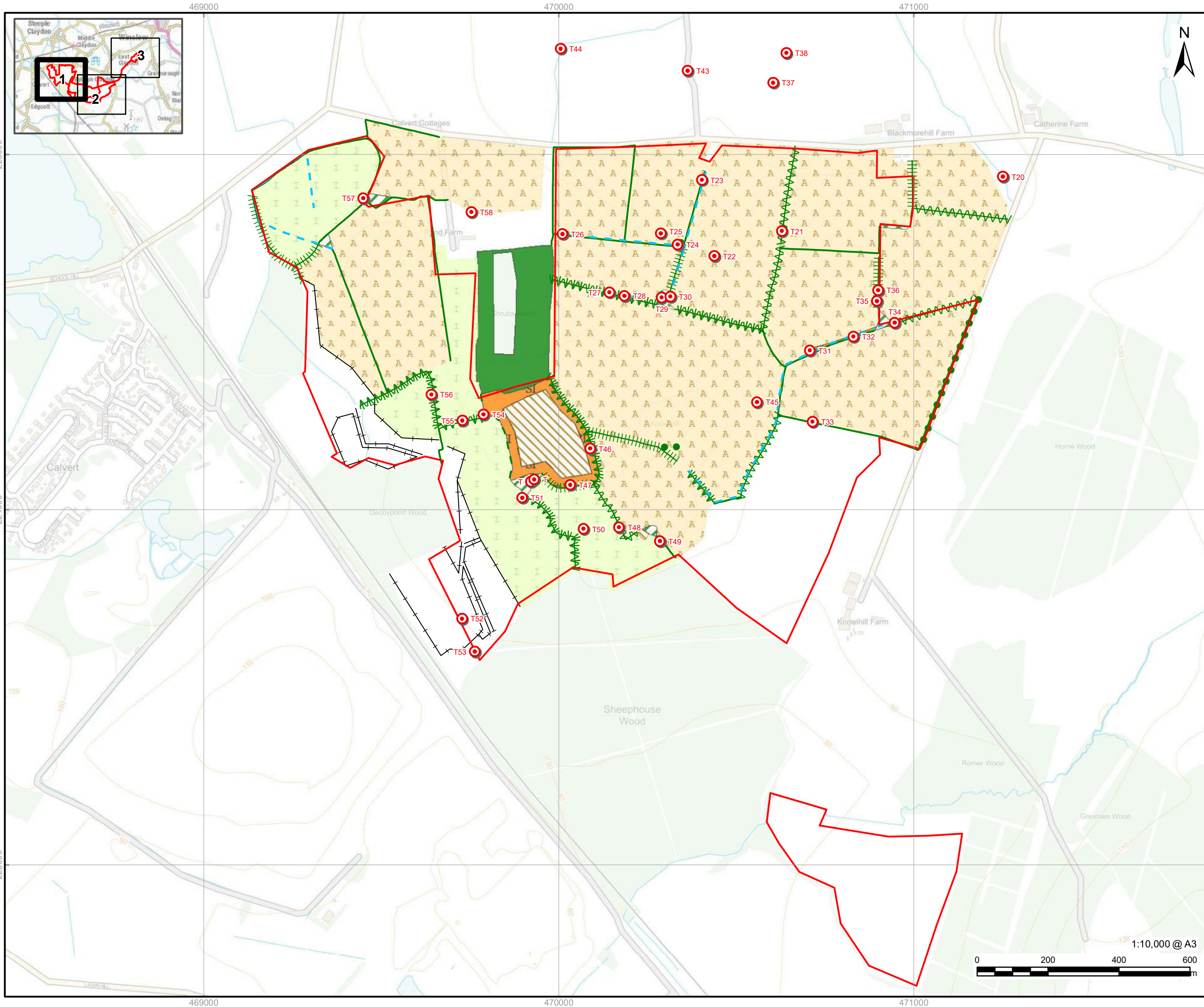
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LEGEND
Site boundary

- Phase 1 Habitat**
- A1.1.1 - Broadleaved woodland - semi-natural
 - A1.1.2 - Broadleaved woodland - plantation
 - A2.1 - Scrub - dense/continuous
 - B2.2 - Neutral grassland - semi-improved
 - B4 - Improved grassland
 - B6 - Poor semi-improved grassland
 - C3.1 - Other tall herb and fern - ruderal
 - G1 - Standing water
 - J1.1 - Cultivated/disturbed land - arable
 - A3.1 - Broadleaved parkland/scattered trees
 - G2 - Running water
 - J2.1.1 - Intact hedge - native species-rich
 - J2.1.2 - Intact hedge - species-poor
 - J2.2.2 - Defunct hedge - species-poor
 - J2.3.1 - Hedge with trees - native species-rich
 - J2.3.2 - Hedge with trees - species-poor
 - J2.4 - Fence
 - J2.6 - Dry ditch
 - Target Note

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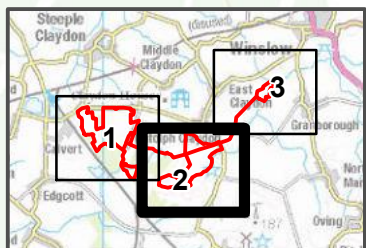
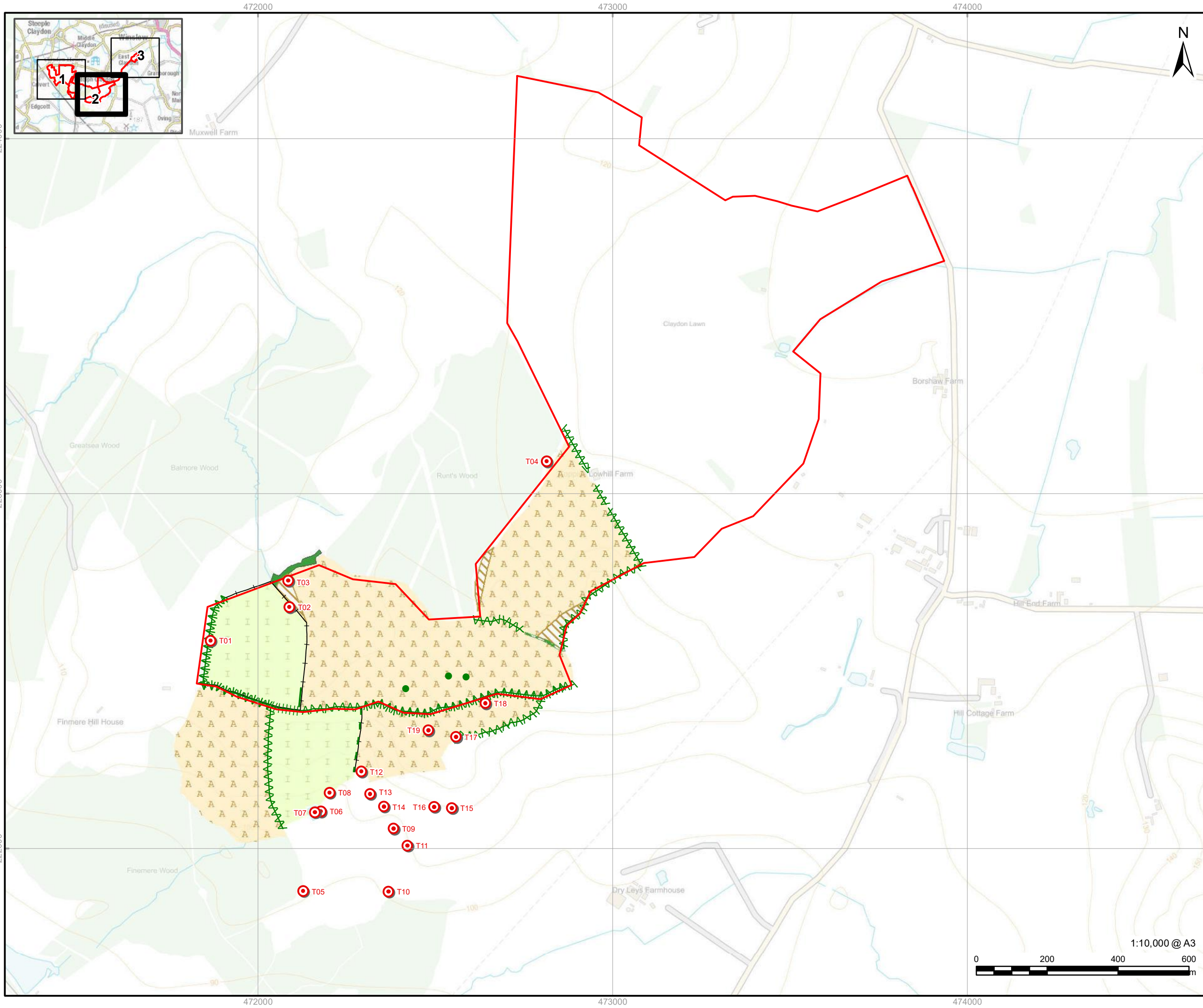
FIGURE TITLE
Phase 1 Habitat, Site 1 and 1a

Page 1 of 3

FIGURE NUMBER
Figure 4.1



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LEGEND

- Site boundary

- Phase 1 Habitat**
- A1.1.1 - Broadleaved woodland - semi-natural
- A2.1 - Scrub - dense/continuous
- B4 - Improved grassland
- C3.1 - Other tall herb and fern - ruderal
- J1.1 - Cultivated/disturbed land - arable
- J2.1.1 - Intact hedge - native species-rich
- J2.1.2 - Intact hedge - species-poor
- J2.2.2 - Defunct hedge - species-poor
- J2.3.1 - Hedge with trees - native species-rich
- J2.3.2 - Hedge with trees - species-poor
- J2.4 - Fence
- Target Note

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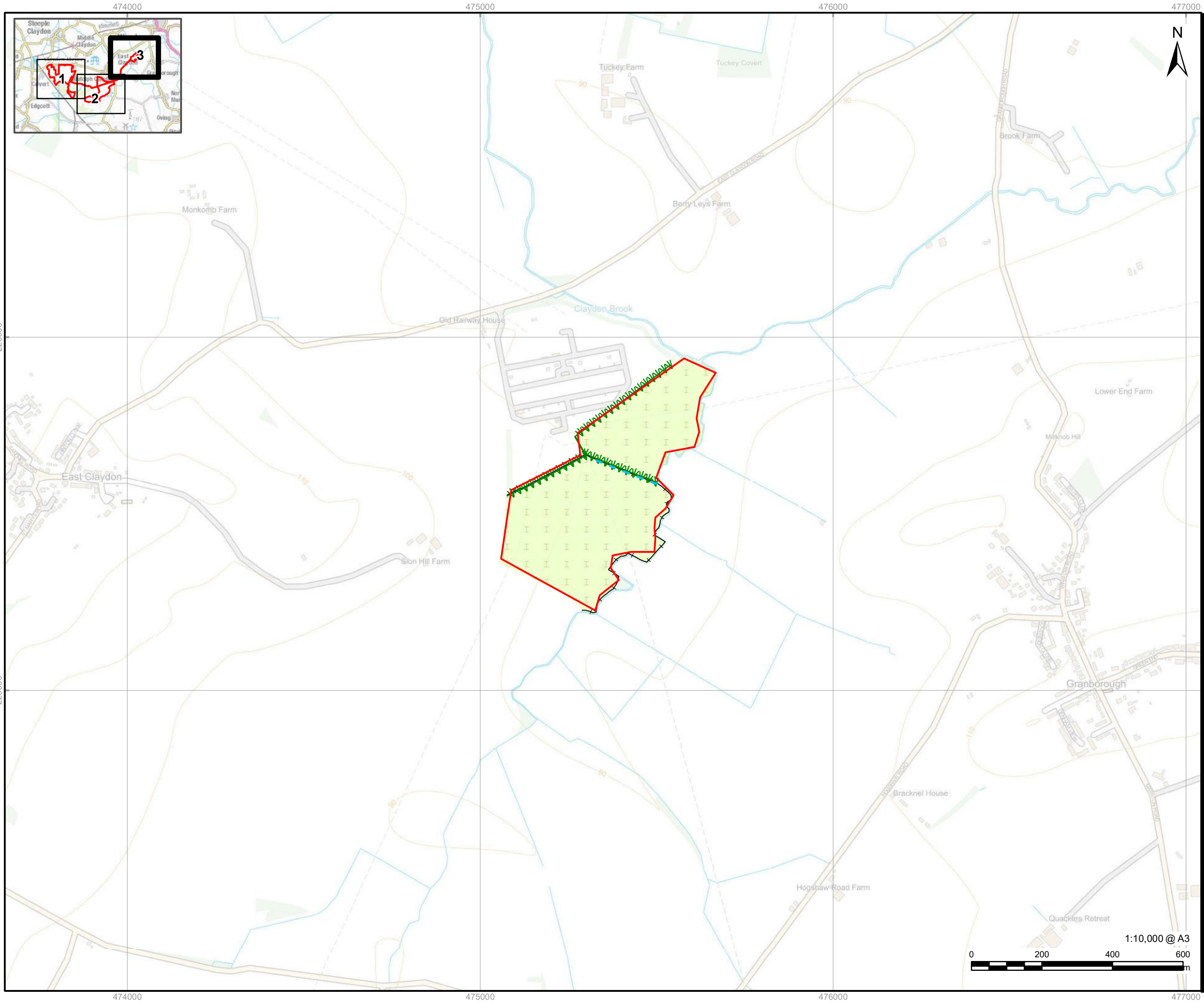
FIGURE TITLE
Phase 1 Habitat, Site 2

Page 2 of 3

FIGURE NUMBER
Figure 4.2



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- LEGEND**
- Site boundary
 - Phase 1 Habitat**
 - B4 - Improved grassland
 - J2.1.2 - Intact hedge - species-poor
 - J2.3.1 - Hedge with trees - native species-rich
 - J2.4 - Fence
 - J2.6 - Dry ditch

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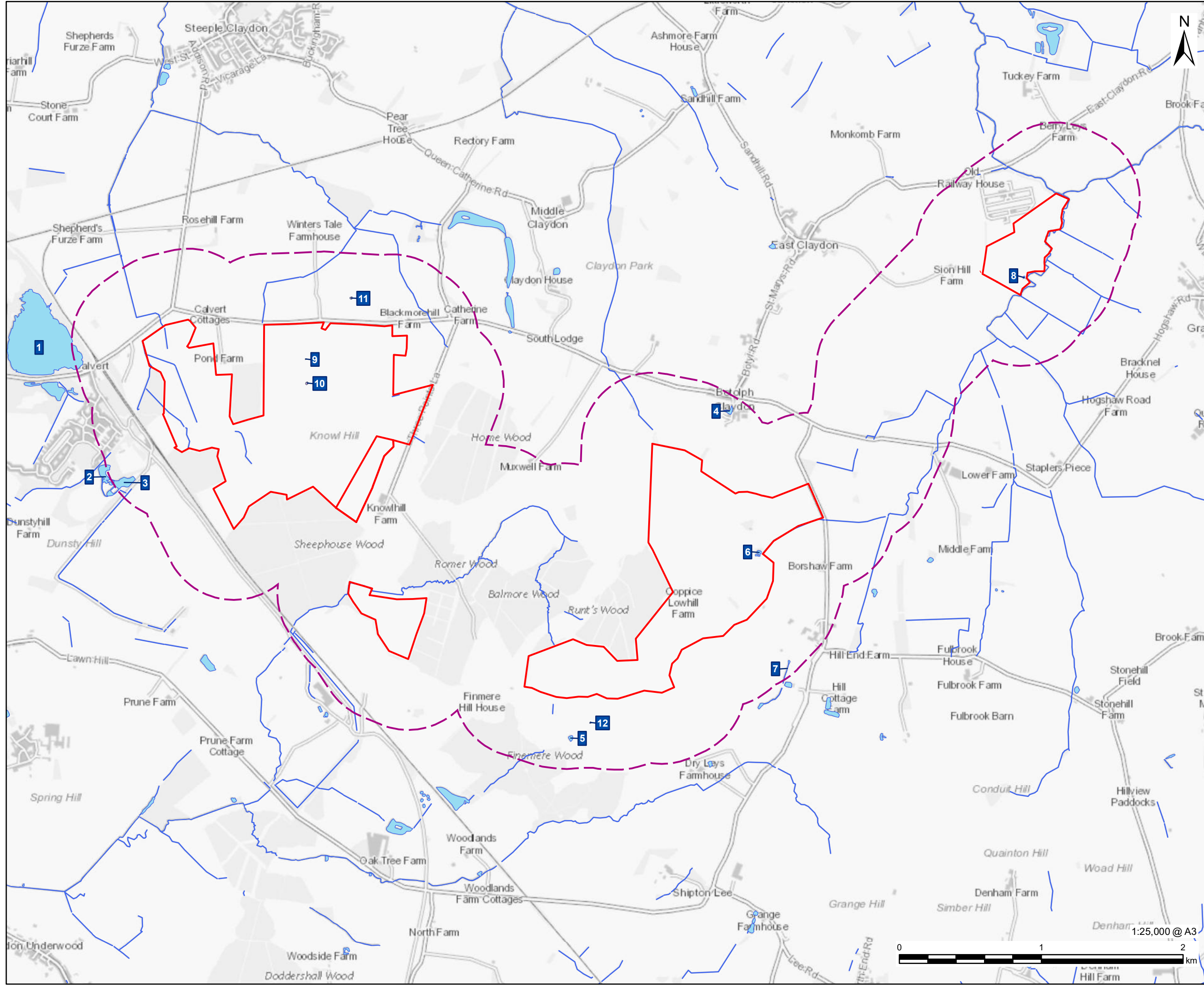
FIGURE TITLE
Phase 1 Habitat, Site 3

Page 3 of 3

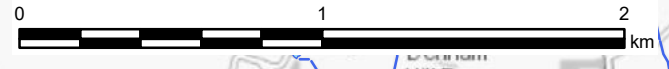
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Figure 4.3



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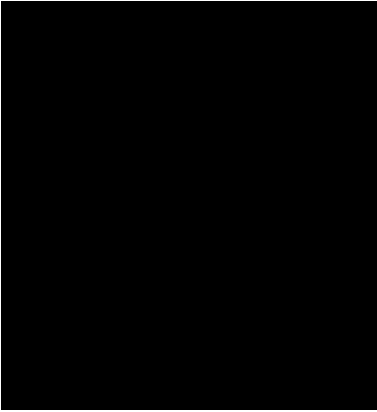




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Appendix C: Target Notes and Photographs

Target Notes	Target Note Information	Photograph
01		
02	Small pond with potential for Great Crested Newt, plants in the pond were Soft Rush, Bur-reed sp, Common Duckweed and Watercress	
03	Habitat with potential for reptiles	

04

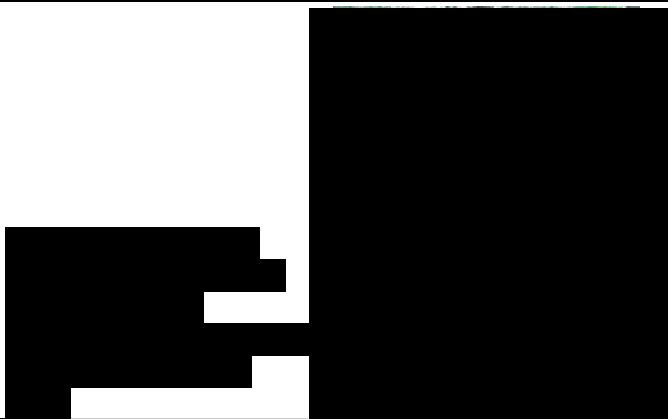
Ash with hole in trunk
suitable for Barn Owl, also
fungi and Hornet's nest in
lower part of trunk



05



06



07

Pond with Great Crested
Newt potential, shaded for
half of area, a lot of sediment
in water



08

Dead tree with large holes in trunk potential for Barn Owl and roosting Bat potential



09

Pedunculate Oak with large hole in trunk, cracked branches, peeling bark, potential for Barn Owl and Bats



10

Small Pedunculate Oak with hole in trunk with Hornet's nest



11

Pedunculate Oak with hole in trunk suitable for Barn Owl, broken branches, peeling bark and knot hole with potential for roosting Bats



12

Small pond surrounded by thick Bramble, potential for Great Crested Newt. Plants present included Common Duckweed, Bur-reed sp and Soft Rush



13

Pond with potential for Great Crested Newt with a heavily poached edge. Plants present were Bur-reed sp, Floating Sweet-grass, Broad-leaved Pondweed, Soft Rush and Hard Rush



14

Barn Owl present in hole in main trunk of tree also many knot holes suitable for roosting Bats



15

Tree with roosting Bat potential, has broken branches, loose bark and hole in trunk



16

Ash with multiple
Woodpecker holes, broken
branch suitable for roosting
Bats



17

Knot holes and peeling bark
potential for roosting Bats,
also lots of white wash on
the tree, Barn Owl potential
within hole in trunk



18

Shaded pond surrounded by
Ash and bramble scrub,
potential for Great Crested
Newt, small area of pond
outside scrub



19

Pond with potential for Great
Crested Newt, surrounded
by scrub, Floating Sweet-
grass, Soft Rush, Common
Reedmace, Cyperus Sedge,
Broad-leaved Pondweed,
Water Plantain, Yellow Iris
and *Chara sp.*



20

Ash with knot holes and hole in branch potential for roosting Bats



21

Ash with broken branches and hole in trunk potential for roosting Bats



22

No water currently but could hold water in spring, Floating Sweet-grass and Hard Rush present



23

Ash with Woodpecker holes, holes in branches and broken branches suitable for roosting Bats



24

Tree with a couple of holes
in trunk suitable for roosting
Bats



25

Pond potential for Great
Crested Newt, plants present
included Common Spike-
rush, Amphibious Bistort,
Branched Bur-reed and Hard
Rush



26

Ash with holes in branch
suitable for roosting Bats



27

Ash with holes in trunk
suitable for roosting Bats



28 Ash with hole in trunk
suitable for Barn Owl



29 Pond with potential for Great
Crested Newt, a Water
Starwort species, Common
Spike-rush, Common
Reedmace and Soft Rush



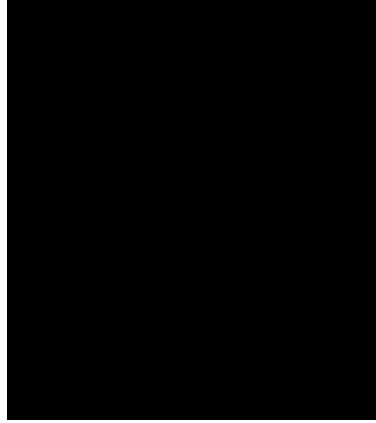
30 Ash with holes in trunk
potential for roosting Bats



31 Dry pond, only small damp
area present, though could
hold water in spring, very
shaded



32



33

Trees with holes in trunk and gaps below bark suitable for roosting Bats



34

Small pond virtually dry, well shaded but potential for Great Crested Newt, plants present were floating Sweet-grass and Common Reedmace



35

Trees with many cracks in trunk and branches with potential for roosting Bats



36

Tree with holes in trunk and gaps under bark potential for roosting Bats



37

Pond with very little water at present but would contain water in spring, plants included Common Reedmace, Bur-reed species, Common Duckweed and Hard Rush



38

Pedunculate Oak with large cracked branch and holes in trunk suitable for roosting Bats



39



40



41

Small-leaved Lime in woodland block



42

Tree with broken trunk, gaps under bark potential for roosting Bats, possible hole in top of trunk with potential for Barn Owl



43

Ash with holes, cracks and peeling bark on trunk potential for roosting Bats



44 Pedunculate Oak with gaps below bark, potential for roosting Bats



45 Spring inside of field, very small amount of water present currently, more in spring time possible though may lack standing water, plants present included Hairy Sedge and Hard Rush



46 Semi-improved neutral grassland on outside of field also has potential for reptiles. Plants present included Birds Foot Trefoil, Common Knapweed, Lady's Bedstraw, Oxeye Daisy, Cocksfoot, Creeping Bent, Red Fescue, Creeping Thistle, Spear Thistle and Bristly Oxtongue



47 Ash with hole in trunk potential for roosting Bats and Barn owl



48 Ash with numerous knot holes with potential for roosting Bats



49



50 Pond currently just damp mud but could hold water in spring potential for Great Crested Newt. Plants here were Common Reedmace, Common Duckweed and Floating Sweet-grass



51 Shallow pond with potential for Great Crested Newt, plants present were Branched Bur-Reed, Brooklime, Common Duckweed and Water Plantain



52

Shallow pond, nutrient rich,
lots of algae, but potential for
Great Crested Newt



53

Pedunculate Oak with
potential for roosting Bat and
Barn Owl



54




Pond currently dry



55

Two Ash trees with broken
branches and many holes
potential for roosting Bats



56	Pedunculate Oak with broken trunk and knot holes potential for roosting Bats	
57	Pond, water not visible, full of Greater Pond Sedge, lots of shading from Willows, if water present in spring potential for Great Crested Newt	No photo
58	Ash with holes in trunk potential for roosting Bats	
59	Dry pond but could hold water in spring, Floating Sweetgrass, Soft Rush and Watercress were present	
60	[Redacted]	[Redacted]

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Appendix F-2

Wintering Bird Surveys October 2021 – March 2022

Rosefield Solar Farm Wintering Bird Survey Report

Rosefield EnergyFarm Limited

August 2022

Quality information

Prepared by	Checked by	Verified by	Approved by
AB Principal Ecologist MC Graduate Ecologist	AB Principal Ecologist	NG Associate Ecologist	NT Technical Director

Revision History

Revision	Revision date	Details	Authorized	Name	Position
V0	July 2022	Internal issue for review	NG	NG	Associate Ecologist
V1	August 2022	Issued to Client for review	NT	NT	Technical Director

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1. Introduction

1.1 Background

AECOM was commissioned by Rosefield EnergyFarm Limited to undertake a survey of wintering birds for the proposed Rosefield Solar Farm (hereafter referred to as the 'Scheme'). As part of the Preliminary Ecological Appraisal (Ref 8-1), a review of Ordnance Survey (OS) mapping of the Scheme identified that the habitat within the Scheme boundary (the Site) was suitable to support birds during the non-breeding (wintering) season and that surveys were required to determine the presence and any assemblages of protected or notable wintering bird species within the Site. Therefore, surveys have been carried out within the Site and an appropriate survey buffer (the survey area) to record the species, distributions and numbers of wintering birds.

1.2 The Scheme

Rosefield Solar Farm is a proposed new solar energy farm, co-located with battery storage. The proposals include grid infrastructure to connect Rosefield Solar Farm to the National Grid via an underground cable. The Scheme would export or import up to 500MW of electricity to and from the National Grid. The proposed generation capacity of the Scheme means it is a Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.3 Site Description

The Scheme is located in three main sites (referred to hereafter as Site 1 (with a sub-site '1a'), Site 2 and Site 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale. The Scheme is within the Upper Thames Clay Vales National Character Area (NCA), which comprises a broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clays. There are contrasting landscapes, including enclosed pastures of the claylands with wet valleys, mixed farming, hedges, hedge trees and field trees and more settled, open, arable lands. Mature field oak trees give a parkland feel in many places.

Site 1 is centred at Ordnance Survey national grid reference SP703242 (Knowl Hill), Site 1a at SP708230, Site 2 at SP730229, and Site 3 at SP753255. Site 1 makes up the largest area of the Proposed Scheme, to the east of Calvert, and consists predominately of arable fields with livestock pastures and woodland blocks. A smaller section, referred to as Site 1a, lies to the immediate south of Site 1. Site 2 contains predominantly arable fields surrounded by woodland blocks. Site 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Sub-station. The sites are surrounded by arable, grassland and woodland. Together these three sites is referred to as the 'Site'.

1.4 Scope of the Report

The objective of the wintering bird survey, reported in this document, is to determine the presence and any assemblages of wintering bird species, including notable species, within the Site and identify any potential impacts of the Scheme on wintering birds.

This report includes the following information:

- relevant legislation and policy;
- methods for desk and field-based assessments undertaken between 2021 and 2022;
- limitations to the surveys undertaken and any assumptions made as a result of incomplete data;
- survey results;

- the approach for determining the nature conservation importance of wintering bird populations recorded during the assessments; and
- conclusions and recommendations.

2. Relevant Legislation, Policy and Guidance

2.1 Legislation

Directive of the Conservation of Wild Birds

A number of bird species recorded within the UK (including those that are resident, over-wintering and migratory) are protected under European legislation through the Directive of the Conservation of Wild Birds (Ref 8-2), which lists 193 species, or sub-species, of birds in Annex 1 which are:

- in danger of extinction;
- are rare, or have restricted local distribution;
- are vulnerable to specific changes in their habitat; or
- require particular attention for reasons of the specific nature of habitat.

These species are afforded enhanced legal protection and European Union (EU) member states have a responsibility to maintain the populations of these species at a level that corresponds to their ecological, scientific and cultural requirements (Article 2). This Directive is transposed into English law through the Conservation of Habitats and Species Regulations 2017 (Ref 8-3). As such, the requirements of the European Council (EC) Birds Directive (2009/147/EC) (Ref 8-2) are still applicable despite the UK no longer being a member state of the European Union.

Species listed on Annex 1 of the Wild Birds Directive (Ref 8-2) are those for which the UK Government are also required to take special measures, including the designation of Special Protection Areas, to ensure the survival and reproduction of these species throughout their area of distribution. These sites are then automatically included within the Natura 2000, which is a network of core breeding and resting sites that are protected for rare and threatened species.

Wildlife and Countryside Act

The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 8-4). Under the WCA, a wild bird is defined as any bird of a species that occurs in a wild state as a resident or a visitor to the European Territory of any member state.

Reference is not made in this report to species afforded special protection under Schedule 1 of the Wildlife and Countryside Act (1981) as the protection measures in this Act only apply to bird species within the breeding season.

Priority Species

In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance (SPI) for conservation in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 8-5). These SPI (or Priority Species) are of material consideration during the planning process. Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.

The Joint Nature Conservation Committee (JNCC) UK Biodiversity Action Plan (UKBAP) (Ref 8-6) was launched in 1994 and identified UK BAP priority species of conservation concern that are the most threatened in the UK and requiring action under the UKBAP and for which action plans have been

published. However, the work undertaken for the UKBAP is now focussed at a country level, rather than UK level, and the UKBAP has subsequently been succeeded by the UK Post-2010 Biodiversity Framework (Ref 8-7). However, the UK list of priority species remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland. For the purpose of this assessment, the UK BAP (Ref 8-6) is still used as one of the criteria to assist in assigning national value to any given ecological receptor.

2.2 Local Biodiversity Action Plan Species

The Site is located within the county of Buckinghamshire (see section 1.3 of this report). The Buckinghamshire and Milton Keynes Forward to 2030 Biodiversity Action Plan (MKBAP) (Ref 8-8), sets out measures that will help to reverse the decline of biodiversity within the area, although focus of the work is primarily on habitats. Whilst the MKBAP is focussed on habitats, without species specific action plans in the county, UK Priority species (Ref 8-5) that have been recorded within the county have been taken forward in this report as local priority species.

2.3 Birds of conservation concern

The Birds of Conservation Concern (BoCC) 5 (Ref 8-8) is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green), that indicate the level of conservation importance for each species, are derived from quantitative assessments from standardised criteria. The assessment is based on the most up-to-date evidence available and criteria includes:

- their conservation status at global and European levels; and
- historical decline, trends in population and range, rarity, localised distribution and international importance within the UK.

The lists are drawn together by the UK's leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).

The criteria for birds being included in the BoCC lists are as follows.

Red List:

- globally threatened;
- historical population decline in UK during 1800–1995; and
- severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969). Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period.

Amber List:

- species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern);
- historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years;
- moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period;
- moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period;
- moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period;
- rare breeder; 1–300 breeding pairs in UK;
- rare non-breeders; less than 900 individuals;

- localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders; and
- internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively).

Green List:

- species that occur regularly in the UK but do not qualify under any of the above criteria.

Although the BoCC lists confer no legal status in themselves, they are useful in evaluating the conservation significance of bird assemblages, and for assessing the potential significance of impacts and informing appropriate levels of mitigation with respect to bird populations.

3. Methods

3.1 Desk Study

A data search was undertaken in October 2021 through Buckinghamshire's and Milton Keynes Environmental Records Centre (BMKERC) to obtain records of protected and notable bird species recorded within a 2 km radius of the Site and within the preceding ten years.

Only records up to ten years old from the request date were considered within the assessment, as any records older than ten years are unlikely to be still representative of bird species in the local area.

3.2 Field Survey

Survey Area

The survey area included all habitat within the Site and a 50 m survey buffer. Standardised survey buffers for assessing the impacts of development on bird populations do not exist, however, the survey area used provides information on the wintering birds within the area immediately surrounding the Scheme and includes areas contiguous with the Site boundary, where birds may potentially be adversely affected. Depending on the sensitivity of the species, birds occurring outside of the survey area may also be adversely affected. The survey area is sufficient to determine the likely impacts of the Scheme on the wintering bird species occurring or likely to occur in the area.

Walkover Survey

The wintering bird surveys were broadly based on a transect methodology as detailed in Bibby et al. (2000) (Ref 8-8) and Gilbert et al. (1998) (Ref 8-11). The wintering bird survey was undertaken between October 2021 and March 2022.

Survey routes across the Site were walked by a surveyor using suitable optical equipment to observe bird behaviour. Regular stopping points were included along the routes to record any species that may be passing through the survey area.

Surveys for wintering birds were undertaken between October 2021 and March 2022, with a total of six survey visits taking place. Owing to the size of the Site, each survey was split over several days. The survey dates were:

- Visit 1 – 25th to 28th October 2021;
- Visit 2 – 15th to 18th November 2021;
- Visit 3 – 13th to 15th December 2021;
- Visit 4 – 7th to 11th February 2022;
- Visit 5 – 22nd to 25th February 2022; and
- Visit 6 – 3rd, 4th, 8th and 10th March 2022.

All surveys were undertaken during appropriate weather conditions for survey in dry conditions with winds of 15mph or less.

The survey routes were walked by surveyors using suitable optical equipment to observe bird behaviour. Regular stopping points were included along the routes to record any species that may be passing through the survey area. Survey routes were mapped, and the direction walked alternated on each visit, to ensure that all areas were covered at various times of day across the duration of the survey. Surveys were undertaken during a range of daylight hours, between sunrise and sunset.

On each visit, the route was walked at a slow pace with start and finish times noted. All birds seen and heard were recorded directly onto an ArcGIS base map using ESRI software on hand-held PDA devices,

with a 1:10,000 scale Ordnance Survey base map of the survey area. Registrations of birds were recorded using standard British Trust for Ornithology (BTO) two letter species codes.

3.3 Assessment of Ornithological Importance

The assessment of the ornithological importance of the survey area during the non-breeding (winter) season was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in section 2 of this report.

These include:

- species listed on Annex 1 of the EU Birds Directive (Ref 8-2);
- priority bird species in the UK (Ref 8-5) and in Buckinghamshire (see section 2.2); and
- species included in the Birds of Conservation Concern (BoCC) Red or Amber Lists (Ref 8-8).

Species Abundance

In addition to evaluating a site based on its populations of wintering birds in relation to legal status, rarity and biodiversity importance, consideration has to be given to the value of the survey area for the population of individual species that it supports. This can be done by comparing the population present within the survey area with the national and county wintering population for certain species. National estimates for non-breeding birds are published in the paper: 'Population estimates of birds in Great Britain and the United Kingdom' (Ref 8-12). The BTO Bird Atlas 2007-2011 (Ref 8-13) was also reviewed for species information on a national level.

County-level estimates on the wintering bird populations of the majority of species in Buckinghamshire was also obtained from county avifauna reports, where this information was available.

Species Diversity

The number of species recorded in an area is a simple measure of diversity that can indicate its importance at each season of the year.

Local Wildlife Sites (LWS) (or County Wildlife Sites (CWS)) are among the most important places for wildlife in Buckinghamshire, together with legally protected land such as Sites of Special Scientific Interest (SSSIs).

In Buckinghamshire an individual CWS can be selected for birds if it meets the criteria within '*Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*' (Ref 8-14). These guidelines state that the criterion for selection of County Wildlife Sites applies to any site which, during the non-breeding season '*frequently supports significant nonbreeding numbers of any of the Notable Species listed in Table 5.7.Aii*'.

Importance of the Wintering Bird Population

To support a focussed assessment of the population of wintering birds within the Site boundary, their biodiversity value was defined with reference to the geographical level at which it matters. The frames of reference used in this report were made using the values presented in the '*Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine*' (Ref 8-14) (hereafter referred to as the CIEEM Guidelines); and professional judgement.

The evaluation uses a framework linked to a geographical scale at which the receptor has been valued (*i.e.* international, national, regional, county, local or site) and this method represents best practice guidance. These assessment criteria, set out in **Table 3-1**, have been used in conjunction with species rarity, abundance and diversity within the survey area to assess the biodiversity importance of the wintering bird populations recorded during the field surveys.

Table 3-1: Importance of Ornithological Features

Importance of Ornithological Features	Descriptors and Examples of Criteria
International or European	<p>Resident or regularly occurring populations of species which may be considered of value at an international or European level¹ where:</p> <ul style="list-style-type: none"> • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part² of a wider population at this scale; or • the species is at a critical phase³ of its life cycle at this scale.
UK or National	<p>Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework <i>i.e.</i> UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the Natural Environment and Rural Communities Act (2006) and those considered to be of principal importance for the conservation of biodiversity.</p> <p>Resident or regularly occurring populations of species which may be considered of value at a UK or a national level⁴ where:</p> <ul style="list-style-type: none"> • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.
Regional	<p>Populations of species of value at a regional level (<i>i.e.</i> south-east England). Resident or regularly occurring populations of species which may be considered of value at a regional level⁵ where:</p> <ul style="list-style-type: none"> • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or • the species is at a critical phase of its life cycle at this scale.
County or Unitary Authority or District	<p>Populations of species of value at a County (<i>i.e.</i> Buckinghamshire) level or District. Resident or regularly occurring populations of species which may be considered of value at a County (or District)⁶ level where:</p> <ul style="list-style-type: none"> • the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; • the population forms a critical part of a wider population at this scale; or, • the species is at a critical phase of its life cycle at this scale.
Local	<p>Species populations of value in a local (<i>i.e.</i> within ~ 2 km of the site) context. Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.</p>
Site**	<p>Habitats and associated species that are of value in the context of the Site only. Populations of common and widespread</p>

¹ Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (*i.e.* EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended).

²Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, *e.g.* critical emigration and, or immigration links between otherwise discrete populations.

³Seasonal activity or behaviour upon which survival or reproduction depends.

⁴Species which may be considered at the UK or national level mean: birds which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1); species listed for their principal importance for biodiversity (in accordance with the Natural

Importance of Ornithological Features

Descriptors and Examples of Criteria

Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (i.e. UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book.

⁵ A figure for regional importance is considered where birds are occurring in numbers of less than national importance, but greater than county importance.

⁶ Such species include those at county level (i.e. Buckinghamshire) including unitary authority area i.e. District level (i.e. Vale of Aylesbury); as listed on the LBAPs; and listed as a county designated site.

*As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.

** Site is not included in the CIEEM guidelines but is included within this report

3.4 Assumptions and Limitations

Desk Study

The information collected from the desk study represents only those records submitted to records centres and is therefore not considered to be a definitive list of protected and priority bird species identified within the desk study area. If records have not been provided, this does not confirm absence of wintering birds from within the Site boundary.

The aim of a desk study was to help characterise the baseline context of the Site and provide valuable background information that would not be captured by site surveys alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species do not occur in the study area. Likewise, the presence of records for particular species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Scheme.

Field Survey

In January 2022, there was a modification to the Site boundary which included the addition of Site 1a, an additional area in the northern section of Site 2, and a re-alignment of the grid connection between Sites.

Site 1a is smaller in size than the other sites (approximately 14 ha) and comprises small field compartments (arable, set-aside and grazed grassland) enclosed to the south and east by ancient woodland. Although surveys were only undertaken between January and March 2022, sufficient representatives of these habitat types were covered to allow for a comprehensive assessment of bird species and assemblages present. Therefore, no further surveys are proposed within this area.

The un-surveyed areas of Site 2 comprise open arable compartments with numerous hedgerows and small woodland copses. Within the surveyed sections of Site 2, similar habitats supported notable species, including Skylark (*Alauda arvensis*) and Snipe (*Gallinago gallinago*). Whilst all of Site 2 is likely to support a similar species assemblage, surveys are recommended within the un-surveyed areas of Site 2 between October 2022 and March 2023 to allow a comprehensive and robust dataset of the baseline of wintering birds occurring within this area.

4. Results

4.1 Desk Study

Records of 123 bird species (see section 2 of this report) were returned from the last ten years of the request data and from within 2 km of the Site (see **Appendix B** for a full list of species recorded).

4.2 Field Survey

The following sections present the wintering bird data collected for the Scheme and then broken down into the respective Scheme areas (see section 1.3 of this report). Species lists in the following tables are listed in taxonomic order, as defined by the British Ornithologists Union (BOU) British List¹ and following International Ornithology Congress (IOC) taxonomy.

A total of 57 species were recorded within the survey area during the wintering bird surveys undertaken in 2021 / 2022.

A breakdown of the number of species recorded per Scheme area is presented in **Table 4-1**.

Table 4-1: Number of species recorded per Scheme area

Site Name	Site 1	Site 1a	Site 2	Site 3
Number of species recorded	52	28	41	30

The 57 species recorded, along with their respective peak counts and conservation status are presented in **Table 4-2**.

¹ The British List: Available at: <https://bou.org.uk/british-list/>

Table 4-2: Peak count data and conservation status of wintering birds recorded within the Site(s), during 2021 and 2022

Species	Scientific name	Conservation status	Scheme Area				Summed Peak count
			Site 1	Site 1a	Site 2	Site 3	
Canada Goose	<i>Branta canadensis</i>	BoCC Amber	2	-	-	-	2
Reg-legged Partridge	<i>Alectoris rufa</i>	-	5	-	6	-	11
Grey Partridge	<i>Perdix perdix</i>	BoCC Red, Priority species, LBAP	2	-	-	-	2
Pheasant	<i>Phasianus colchicus</i>	-	2	2	4	-	8
Little Egret	<i>Egretta garzetta</i>	Annex 1	-	-	-	1	1
Cormorant	<i>Phalacrocorax carbo</i>	-	-	-	1	-	1
Sparrowhawk	<i>Accipiter nisus</i>	BoCC Amber	-	-	1	-	1
Red Kite	<i>Milvus milvus</i>	Annex 1, WCA 1	9	8	6	2	25
Buzzard	<i>Buteo buteo</i>	-	2	-	1	-	3
Moorhen	<i>Gallinula chloropus</i>	BoCC Amber	1	-	-	-	1
Lapwing	<i>Vanellus vanellus</i>	Priority Species, BoCC Red, LBAP	6	-	90	-	96
Golden Plover	<i>Pluvialis apricaria</i>	Annex 1	1	-	-	-	1
Snipe	<i>Gallinago gallinago</i>	BoCC Amber	104	-	40	-	144
Herring Gull	<i>Larus argentatus</i>	Priority Species, BoCC Red, LBAP	1	-	-	-	1
Lesser Black-backed Gull	<i>Larus fuscus</i>	BoCC Amber	3	-	4	2	9
Stock Dove	<i>Columba oenas</i>	BoCC Amber	6	-	13	-	19
Woodpigeon	<i>Columba palumbus</i>	BoCC Amber	359	26	13	7	405
Great Spotted Woodpecker	<i>Dendrocopos major</i>	-	2	1	1	-	4
Green Woodpecker	<i>Picus viridis</i>	-	2	1	-	-	3
Peregrine	<i>Falco peregrinus</i>	Annex 1, WCA 1	-	1	-	-	1

Species	Scientific name	Conservation status	Scheme Area				Summed Peak count
			Site 1	Site 1a	Site 2	Site 3	
Jay	<i>Garrulus glandarius</i>	-	3	2	3	1	9
Magpie	<i>Pica pica</i>	-	4	2	3	1	10
Jackdaw	<i>Coloeus monedula</i>	-	42	-	59	36	137
Rook	<i>Corvus frugilegus</i>	BoCC Amber	12	2	75	47	1336
Carrion Crow	<i>Corvus corone</i>	-	8	2	19	2	31
Raven	<i>Corvus corax</i>	-	2	2	1	1	6
Coal Tit	<i>Parus ater</i>	-	-	1	-	-	1
Marsh Tit	<i>Poecile palustris</i>	Priority Species, BoCC Red, LBAP	2	-	2	-	4
Blue Tit	<i>Cyanistes caeruleus</i>	-	25	4	8	5	42
Great Tit	<i>Parus major</i>	-	12	4	4	2	22
Skylark	<i>Alauda arvensis</i>	Priority Species, BoCC Red, LBAP	27	3	9	1	42
Long-tailed Tit	<i>Aegithalos caudatus</i>	-	32	2	5	4	43
Chiffchaff	<i>Phylloscopus collybita</i>	-	1	-	-	-	1
Goldcrest	<i>Regulus regulus</i>	-	1	1	1	2	5
Wren	<i>Troglodytes troglodytes</i>	BoCC Amber	8	4	7	3	22
Nuthatch	<i>Sitta europaea</i>	-	-	-	1	-	1
Treecreeper	<i>Certhia familiaris</i>	-	1	-	1	-	2
Starling	<i>Sturnus vulgaris</i>	Priority Species, BoCC Red, LBAP	92	-	46	10	148
Blackbird	<i>Turdus merula</i>	-	21	4	14	6	45
Fieldfare	<i>Turdus pilaris</i>	WCA 1, BoCC Red,	45	19	41	43	148
Redwing	<i>Turdus iliacus</i>	WCA 1, BoCC Amber	204	113	97	176	590
Song Thrush	<i>Turdus philomelos</i>	Priority Species, BoCC Amber, LBAP	22	3	8	2	35
Mistle Thrush	<i>Turdus viscivorus</i>	BoCC Red	4	-	-	-	4

Species	Scientific name	Conservation status	Scheme Area				Summed Peak count
			Site 1	Site 1a	Site 2	Site 3	
Robin	<i>Erithacus rubecula</i>	-	17	4	11	5	37
House Sparrow	<i>Passer domesticus</i>	BoCC Red, Priority species, LBAP	1	-	-	-	1
Dunnock	<i>Prunella modularis</i>	Priority Species, BoCC Amber, LBAP	11	3	5	4	23
Grey Wagtail	<i>Motacilla cinerea</i>	BoCC Amber	1	-	-	1	2
Pied Wagtail	<i>Motacilla alba</i>	-	7	-	3	1	11
Meadow Pipit	<i>Anthus pratensis</i>	BoCC Amber	4	1	38	1	44
Chaffinch	<i>Fringilla coelebs</i>	-	37	6	115	6	164
Bullfinch	<i>Pyrrhula pyrrhula</i>	Priority Species, BoCC Amber, LBAP	7	-	1	-	8
Greenfinch	<i>Chloris chloris</i>	BoCC Red	2	-	-	1	3
Linnet	<i>Linaria cannabina</i>	Priority Species, BoCC Red, LBAP	4	-	1	-	5
Goldfinch	<i>Carduelis carduelis</i>	-	23	2	21	6	52
Siskin	<i>Spinus spinus</i>	-	2	-	-	-	2
Yellowhammer	<i>Emberiza citrinella</i>	Priority Species, BoCC Red, LBAP	14	2	14	1	31
Reed Bunting	<i>Emberiza schoeniclus</i>	Priority Species, BoCC Amber, LBAP	1	-	-	-	1
Total Number of Species			53	28	41	30	

5. Evaluation

5.1 Desk Study

Records of 122 bird species were returned from the BMERC desk study. Of these 122 species (of which some species are assigned to more than one list):

- 20 are listed on Annex 1 of the EC Birds Directive (Ref 8-2);
- 32 are listed as Priority Species (Ref 8-5);
- 38 species are included on the BoCC Red List (Ref 8-8); and
- 48 species are included on the BoCC Amber List (Ref 8-8).

5.2 Field Survey

57 bird species were recorded across the Site during wintering bird surveys for the Scheme. Of these 57 bird species, 32 species (see **Table 4-2**) meet at least one of a range of criteria relating to conservation importance, as listed in section 2 of this report.

Four species (Little Egret, Red Kite, Peregrine and Golden Plover) listed on Annex I of the EC Birds Directive (Ref 8-2) were recorded within the Site. A single Little Egret was recorded flying over Site 3 in December 2021 and single Peregrine and Golden Plover were recorded in January 2022 only, flying over sites 1a and 2 respectively. Red Kite was a numerous species during the wintering bird surveys, with a summed peak count of 25 birds across the Sites. However, outside of the survey area (beyond 50m from the Site) birds were far more numerous, peaking at 70+ birds viewable from Site 1 alone.

A total of 12 priority species (Ref 8-5) were recorded within the Site. These were: Grey Partridge, Lapwing, Herring Gull, Marsh Tit, Skylark, Starling, Song Thrush, House Sparrow, Dunnock, Bullfinch, Yellowhammer and Reed Bunting.

Twelve species, included on the BoCC Red List (Ref 8-8) and 16 species included on the BoCC Amber list (Ref 8-8), were recorded within the Site. The remaining species are all included on the Green list and are of least conservation concern.

5.3 Species Abundance

In addition to evaluating a site based on its populations of wintering birds in relation to legal status, rarity and conservation value, consideration has to be given to the value of the site for the population of individual species that it supports. This can be done by comparing the population present on the Site with the national and county wintering population for certain species.

No peak counts of any species form a significant proportion (*i.e.* 1% or more) of the national wintering population estimates as detailed in Woodward *et al.* (Ref 8-12).

At a county level, the Buckinghamshire bird club produces an annual county bird report, with the most recent publication from 2020. Whilst population estimates for the majority of non-breeding populations are not presented in this report, the majority of wintering bird species recorded within the Site were recorded in low numbers and, using professional judgement, are unlikely to represent significant proportions (*i.e.* 1% or more) of the county populations. Therefore, the majority of species' populations across the Site are considered to be of no more than local importance.

However, the population of Snipe (peak count of 144) is likely to represent a more significant proportion of the county population, although this species is likely to be under-recorded at a county level. Therefore, the population of Snipe recorded on site is of at least district importance.

5.4 Species Diversity

Professional judgement was used to evaluate the number of species recorded within the Site and in each discrete habitat type (as described in section 3.3 of this report) to assess species diversity.

The number of species recorded using the Site was 57 and would place the importance of the species diversity occurring within the Site as being of county importance.

However, based on the number of species recorded within each Scheme area and of those species occurring, or likely to occur, within each habitat type, Sites 1 and 2 support an assemblage of wintering birds which may be of importance at a district level and Sites 1a and 3 are of no more than local importance.

On evaluation of the species assemblage recorded within the Site and the criteria for the selection of Local Wildlife Sites (as detailed in section 3.3 of this report), Red Kite and Snipe were both recorded on site and are listed as species for consideration for selection as a LWS. However, there are no minimum thresholds presented within the criteria and, given that survey data on the Site is from a single season, the criteria for inclusion is not fulfilled, *i.e.*, no evidence that the Site 'regularly' supports these species. However, on the assumption that both species are likely to occur on site on an annual basis, this criteria may be met, although without any threshold data presented in the LWS criteria, the Site would not qualify for either species.

5.5 Species Distribution

The location of Annex 1 species, Priority species and/or BoCC red and amber-listed bird species, (see **Table 4-2**) are presented in Figure 2 in **Appendix A**. In general, concentrations of species were found within the most suitable habitats to support each individual species' needs (*i.e.* species reliant on woodland habitats were found on the Site close to woodland etc.).

5.6 Evaluation of key habitat types for wintering birds

A summary of the broad habitat types present in the survey area and their key ornithological features, are presented in **Table 5-1**.

Table 5-1: Key Ornithological Features of habitat within the Survey Area

Broad Habitat Type	Site (see section 1.3)	Key Ornithological Features
Small waterbodies / ponds	All, except Site 1a	Supports species associated with wetland features, such as Moorhen.
Arable farmland	All	The predominant habitat type occurring within the Site and wider landscape beyond the survey area. Supports seed-eating passerines, including Skylark, Yellowhammer and Linnet.
Scrub / hedgerows	All	Frequently occurring habitat within the Site of varying quality. Supports species such as Yellowhammer, Dunnock, Song Thrush and Bullfinch.
Mature trees / woodland	All	Parcels of woodland and individual trees scattered within the Site, predominantly on the site boundaries. Supports species such as Green Woodpecker, as well as species often found in scrub / hedgerows.
Game cover crops / set-aside	Sites 1 and 2	Occasional habitat feature occurring within the Site, supporting flocks of farmland seed-eating passerines, such as Linnet, Yellowhammer, Reed Bunting and Dunnock.

6. Conclusions

A total of 57 bird species were recorded during wintering bird surveys for the Scheme. Of these 57 bird species, 32 species meet at least one of a range of criteria relating to conservation importance (see **Table 4-2**), as detailed in section 2 of this report.

Species diversity for the Site is of county importance and, individually, Sites 1 and 2 support an assemblage of wintering birds which may be of importance at a district level. However, individually, species diversity at Sites 1a and 3 are only of local importance.

With the exception of Snipe (which occurs in numbers of county importance), species populations are of local importance within the Site. However, species diversity is of county importance, based on the number of species recorded.

The construction of the Scheme, in the absence of avoidance or mitigation, has the potential to affect the wintering bird assemblage recorded within the Site. These potential effects include:

- habitat loss and fragmentation;
- displacement and/or loss of wintering populations;
- increase in noise, causing disturbance; and
- visual disturbance.

Surveys of the wintering bird assemblage are recommended within the un-surveyed areas of Site 2 between October 2022 and March 2023 to allow a comprehensive and robust dataset of the baseline of wintering birds occurring within this area. The majority of ecological data is valid only for short periods due to the inherently transient nature of the subject (CIEEM, 2019¹). On this basis, it is recommended that the surveys for wintering birds will need repeating for the whole Site in two years (*i.e.* in 2023/2024) if the application has not been submitted by this date.

¹ CIEEM: Advice Note on the lifespan of ecological surveys and reports <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf> (Accessed January 2022)

7. Outline Mitigation Proposals

A number of measures can be included within the design of the Scheme to mitigate for any potential effects on the wintering bird assemblage recorded within the Site in 2021/2022.

The Scheme should seek to avoid the loss of woodland and hedgerow habitat within the Scheme boundary, although small areas of such habitats may be removed to facilitate access. Where any such habitats are removed, these should be replaced or restored.

The construction of the Scheme will incur loss of arable habitat, used by overwintering Snipe and other species such as Skylark. Therefore, it is important that mitigation measures are included to alleviate any effects on these species and include enhancement where possible. It is recommended that, wherever possible, any habitat loss should be mitigated for with the objective of conserving a similarly diverse assemblage of wintering birds to what is already present within the Scheme Sites.

To achieve this, the mitigation package should include habitat creation that will minimise the impacts of the Scheme on the wintering bird assemblage. Habitat creation could include retention of areas of habitat that is flooded on an annual basis to ensure it is suitable to support over-wintering Snipe. For woodland and scrub species, the design should include the planting of mixed native species of trees and scrub, including fruiting species such as Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa* that, through the provision of berries will, provide foraging and roosting habitat for wintering birds.

The creation of areas of set-aside or cover crops would benefit a range of arable farmland passerines present within the Scheme boundary, including Yellowhammer, Linnet and Skylark. These species are reliant on such habitats during winter months for feeding and shelter.

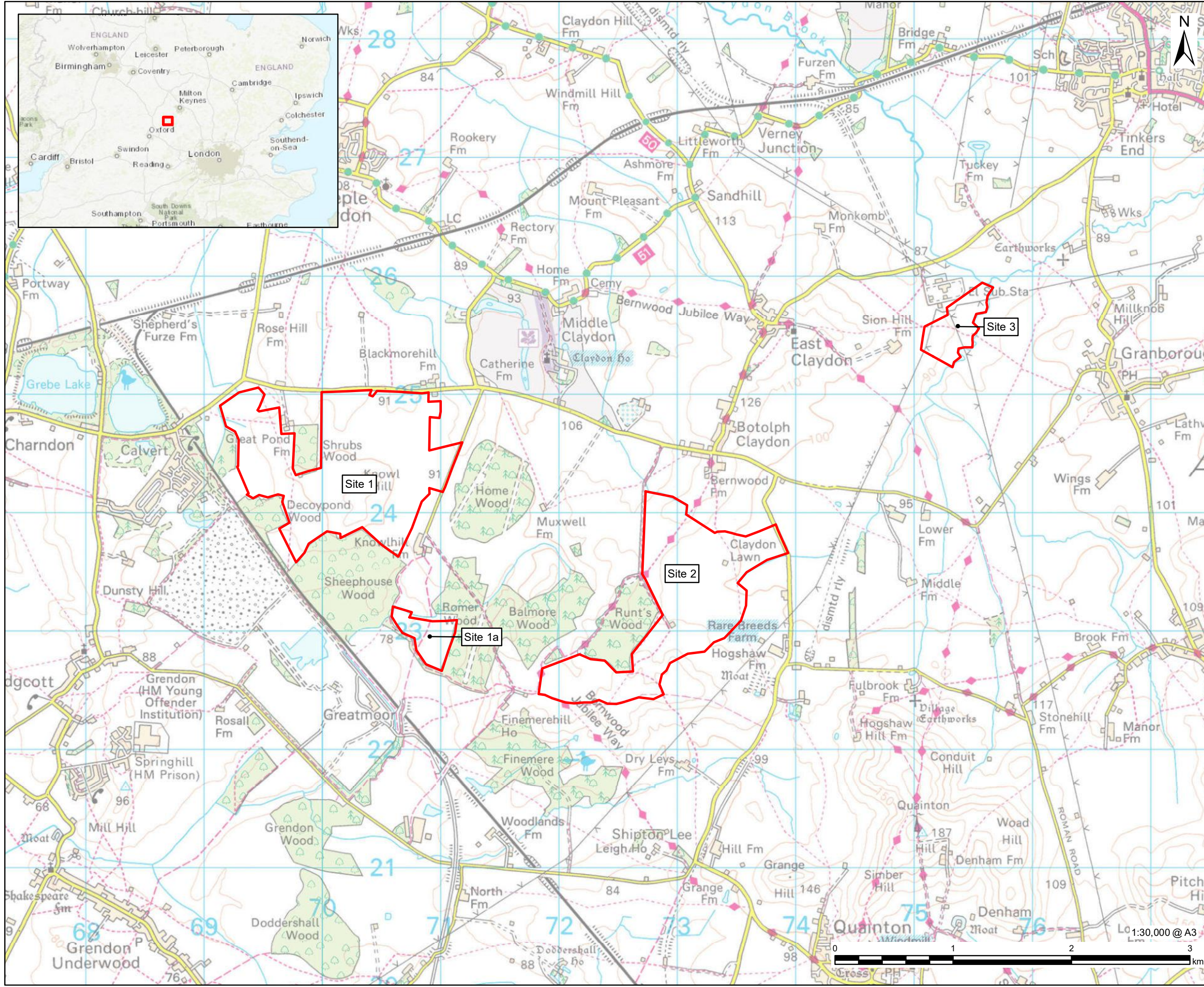
It is presumed that the construction of the Scheme will be undertaken in a phased approach over many months. Therefore, vegetation clearance works should be timed to be undertaken outside of the bird breeding season (*i.e.* between September and February) to avoid any additional constraints associated with this activity.

8. References

- Ref 8-1 AECOM, 2022. Rosefield Solar Farm Preliminary Ecological Appraisal.
- Ref 8-2 EC (2009) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). EC, Brussels.
- Ref 8-3 HMSO (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.
- Ref 8-4 Anon. (1981). The Wildlife & Countryside Act. HMSO, London.
- Ref 8-5 Anon. (2006). The Natural Environment and Rural Communities Act. HMSO, London.
- Ref 8-6 Anon. (2008). UK Biodiversity Action Plan.
- Ref 8-7 JNCC, UK Post-2010 Biodiversity Framework, 2012, available at <http://jncc.defra.gov.uk/page-6189> (Accessed May 2022).
- Ref 8-8 Natural Environment Partnership. (2020). Forward to 2030: Biodiversity Action Plan. Forward to 2030 – Buckinghamshire & Milton Keynes Natural Environment Partnership (bucksmknep.co.uk).
- Ref 8-9 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747.
- Ref 8-10 Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques*: 2nd edition. Academic Press, London.
- Ref 8-11 Gilbert G., Gibbons D.W., and Evans J. (1998) *Bird Monitoring Methods: A manual of techniques for key UK species*. RSPB, Bedfordshire.
- Ref 8-12 Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69–104.
- Ref 8-13 Balmer, D., Gillings, G., Caffrey, B., Swann, B., Downie, I. and Fuller, R., 2013. *Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland*. BTO.
- Ref 8-14 BMERC. (2009) *Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*. Buckinghamshire and Milton Keynes Environmental Records Centre.
- Ref 8-15 CIEEM. (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 – Updated September 2019.

Appendix A: Figures

Figure 1 Site Location



PROJECT
Rosefield Solar Farm

CLIENT
Rosefield EnergyFarm Limited

CONSULTANT
AECOM Limited
Unit 1 Wellbrook Court,
Girton, Cambridge,
CB3 0NA
www.aecom.com

LEGEND
 Site boundary

NOTES
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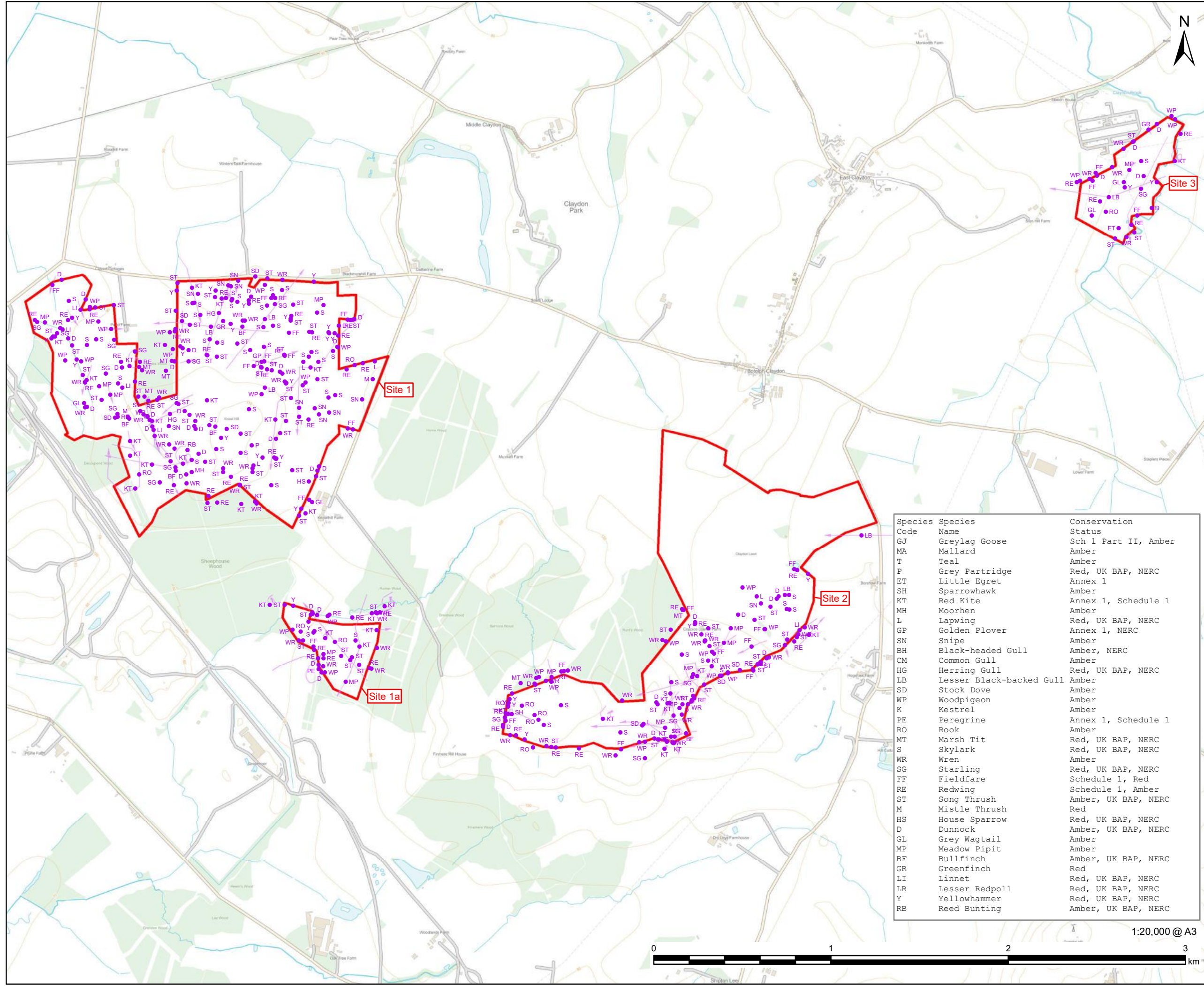
ISSUE PURPOSE
For Information

PROJECT NUMBER
60662345

FIGURE TITLE
Site Location

FIGURE NUMBER
Figure 1

Figure 2 Distribution of species of conservation concern



Species Code	Species Name	Conservation Status
GJ	Greylag Goose	Sch 1 Part II, Amber
MA	Mallard	Amber
T	Teal	Amber
P	Grey Partridge	Red, UK BAP, NERC
ET	Little Egret	Annex 1
SH	Sparrowhawk	Amber
KT	Red Kite	Annex 1, Schedule 1
MH	Moorhen	Amber
L	Lapwing	Red, UK BAP, NERC
GP	Golden Plover	Annex 1, NERC
SN	Snipe	Amber
BH	Black-headed Gull	Amber, NERC
CM	Common Gull	Amber
HG	Herring Gull	Red, UK BAP, NERC
LB	Lesser Black-backed Gull	Amber
SD	Stock Dove	Amber
WP	Woodpigeon	Amber
K	Kestrel	Amber
PE	Peregrine	Annex 1, Schedule 1
RO	Rook	Amber
MT	Marsh Tit	Red, UK BAP, NERC
S	Skylark	Red, UK BAP, NERC
WR	Wren	Amber
SG	Starling	Red, UK BAP, NERC
FF	Fieldfare	Schedule 1, Red
RE	Redwing	Schedule 1, Amber
ST	Song Thrush	Amber, UK BAP, NERC
M	Mistle Thrush	Red
HS	House Sparrow	Red, UK BAP, NERC
D	Duncock	Amber, UK BAP, NERC
GL	Grey Wagtail	Amber
MP	Meadow Pipit	Amber
BF	Bullfinch	Amber, UK BAP, NERC
GR	Greenfinch	Red
LI	Linnet	Red, UK BAP, NERC
LR	Lesser Redpoll	Red, UK BAP, NERC
Y	Yellowhammer	Red, UK BAP, NERC
RB	Reed Bunting	Amber, UK BAP, NERC

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Appendix B: Bird records received through the data search

<i>Scientific name</i>	<i>Common (English) Name</i>
<i>Aix galericulata</i>	Mandarin Duck
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Accipiter gentilis</i>	Goshawk
<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Alauda arvensis</i>	Skylark
<i>Alcedo atthis</i>	Kingfisher
<i>Anas acuta</i>	Pintail
<i>Anas crecca</i>	Teal
<i>Anas platyrhynchos</i>	Mallard
<i>Anser albifrons</i>	White-fronted Goose
<i>Anser anser</i>	Greylag Goose
<i>Anthus pratensis</i>	Meadow Pipit
<i>Anthus trivialis</i>	Tree Pipit
<i>Apus apus</i>	Swift
<i>Asio flammeus</i>	Short-eared Owl
<i>Aythya ferina</i>	Pochard
<i>Aythya marila</i>	Scaup
<i>Botaurus stellaris</i>	Bittern
<i>Branta bernicla</i>	Brent Goose
<i>Branta canadensis</i>	Canada Goose
<i>Branta leucopsis</i>	Barnacle Goose
<i>Bucephala clangula</i>	Goldeneye
<i>Calidris alba</i>	Sanderling
<i>Calidris alpina</i>	Dunlin
<i>Calidris pugnax</i>	Ruff
<i>Cettia cetti</i>	Cetti's Warbler
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius hiaticula</i>	Ringed Plover
<i>Chlidonias niger</i>	Black Tern
<i>Circus aeruginosus</i>	Marsh Harrier
<i>Circus cyaneus</i>	Hen Harrier
<i>Coccothraustes coccothraustes</i>	Hawfinch
<i>Columba oenas</i>	Stock Dove
<i>Coturnix coturnix</i>	Quail
<i>Cuculus canorus</i>	Cuckoo

Scientific name	Common (English) Name
<i>Cygnus cygnus</i>	Whooper Swan
<i>Cygnus olor</i>	Mute Swan
<i>Delichon urbicum</i>	House Martin
<i>Dryobates minor</i>	Lesser Spotted Woodpecker
<i>Emberiza citrinella</i>	Yellowhammer
<i>Emberiza schoeniclus</i>	Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco subbuteo</i>	Hobby
<i>Falco tinnunculus</i>	Kestrel
<i>Ficedula hypoleuca</i>	Pied Flycatcher
<i>Fringilla montifringilla</i>	Brambling
<i>Gallinago gallinago</i>	Snipe
<i>Gavia immer</i>	Great Northern Diver
<i>Haematopus ostralegus</i>	Oystercatcher
<i>Hydrobates pelagicus</i>	Storm Petrel
<i>Hydrocoloeus minutus</i>	Little Gull
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull
<i>Jynx torquilla</i>	Wryneck
<i>Larus argentatus</i>	Herring Gull
<i>Larus cachinnans</i>	Caspian Gull
<i>Larus fuscus</i>	Lesser Black-backed Gull
<i>Larus glaucoides</i>	Iceland Gull
<i>Larus hyperboreus</i>	Glaucous Gull
<i>Larus marinus</i>	Great Black-backed Gull
<i>Larus michahellis</i>	Yellow-legged Gull
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Limosa limosa</i>	Black-tailed Godwit
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Luscinia megarhynchos</i>	Nightingale
<i>Mareca penelope</i>	Wigeon
<i>Mareca strepera</i>	Gadwall
<i>Melanitta nigra</i>	Common Scoter
<i>Milvus milvus</i>	Red Kite
<i>Morus bassanus</i>	Gannet
<i>Motacilla cinerea</i>	Grey Wagtail
<i>Motacilla flava</i>	Yellow Wagtail

Scientific name	Common (English) Name
<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Netta rufina</i>	Red-crested Pochard
<i>Numenius arquata</i>	Curlew
<i>Numenius phaeopus</i>	Whimbrel
<i>Nycticorax nycticorax</i>	Night-heron
<i>Oceanodroma leucorhoa</i>	Leach's Petrel
<i>Pandion haliaetus</i>	Osprey
<i>Panurus biarmicus</i>	Bearded Tit
<i>Passer domesticus</i>	House Sparrow
<i>Passer montanus</i>	Tree Sparrow
<i>Perdix perdix</i>	Grey Partridge
<i>Phoenicurus phoenicurus</i>	Redstart
<i>Phylloscopus trochilus</i>	Willow Warbler
<i>Pluvialis squatarola</i>	Grey Plover
<i>Podiceps auritus</i>	Slavonian Grebe
<i>Podiceps grisegena</i>	Red-necked Grebe
<i>Podiceps nigricollis</i>	Black-necked Grebe
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Bullfinch
<i>Regulus ignicapilla</i>	Firecrest
<i>Rissa tridactyla</i>	Kittiwake
<i>Saxicola rubetra</i>	Whinchat
<i>Scolopax rusticola</i>	Woodcock
<i>Spatula clypeata</i>	Shoveler
<i>Spatula querquedula</i>	Garganey
<i>Sterna hirundo</i>	Common Tern
<i>Sterna paradisaea</i>	Arctic Tern
<i>Streptopelia turtur</i>	Turtle Dove
<i>Strix aluco</i>	Tawny Owl
<i>Sturnus vulgaris</i>	Starling
<i>Tadorna ferruginea</i>	Ruddy Shelduck
<i>Tadorna tadorna</i>	Shelduck
<i>Thalasseus sandvicensis</i>	Sandwich Tern
<i>Tringa erythropus</i>	Spotted Redshank
<i>Tringa glareola</i>	Wood Sandpiper
<i>Tringa nebularia</i>	Greenshank
<i>Tringa ochropus</i>	Green Sandpiper

<i>Scientific name</i>	Common (English) Name
<i>Tringa totanus</i>	Redshank
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Turdus torquatus</i>	Ring Ouzel
<i>Turdus viscivorus</i>	Mistle Thrush
<i>Tyto alba</i>	Barn Owl
<i>Upupa epops</i>	Hoopoe
<i>Vanellus vanellus</i>	Lapwing

Appendix F-3

Breeding Bird Surveys March 2022 – June 2022

Rosefield Solar Farm

Report on surveys for breeding birds

August 2022

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
MC Ecologist AJB Principal Ecologist	AJB Principal Ecologist	NG Associate Ecologist	NT Technical Director

Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>
V0	17/08/22	Issue for internal review	NG	NG	Associate
V1	22/08/22	Issue to Client	NT	NT	Technical Director

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1. Introduction

1.1 Background

1.1.1 In September 2021, Rosefield EnergyFarm Limited commissioned a Preliminary Ecological Appraisal (PEA) (Ref 7-1) for the construction, operation (including maintenance), and decommissioning of the proposed Rosefield Solar Farm (hereafter referred to as the Scheme). This PEA identified that the habitat within the Scheme (the Site) was suitable to support birds during the breeding season and that further surveys were required to determine the presence or absence of protected or notable¹ bird species and the assemblage of breeding bird species. Therefore, surveys of breeding birds have been undertaken within the Site and an appropriate survey buffer (the survey area) to record the species, distribution and numbers of breeding birds.

1.2 The Scheme

1.2.1 Rosefield EnergyFarm Limited is a proposed new solar energy farm, co-located with battery storage. The proposals include grid infrastructure to connect Rosefield EnergyFarm Limited to the National Grid via an underground cable. The Scheme would export or import up to 500MW of electricity to and from the National Grid. The proposed generation capacity of the Proposed Scheme means it is a Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.3 Site Description

1.3.1 The Scheme is located in three main sites (referred to hereafter as Site 1 (with a sub-site '1a'), Site 2 and Site 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale. The Proposed Scheme is within the Upper Thames Clay Vales National Character Area (NCA), which comprises a broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clays. There are contrasting landscapes, including enclosed pastures of the claylands with wet valleys, mixed farming, hedges, hedge trees and field trees and more settled, open, arable lands. Mature field oak trees give a parkland feel in many places.

1.3.2 Site 1 is centred at Ordnance Survey national grid reference SP703242 (Knowl Hill), Site 1a at SP708230, Site 2 at SP730229 and Site 3 at SP753255. Site 1 makes up the largest area of the Proposed Scheme, to the east of Calvert, and consists predominately of arable fields with livestock pastures and woodland blocks. A smaller section, referred to as Site 1a, lies to the immediate south of Site 1. Site 2 contains predominantly arable fields surrounded by woodland blocks. Site 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Sub-station. The Sites are surrounded by arable, grassland and woodland. Together these three sites are referred to as the 'Site.'

1.4 Scope of the Report

1.4.1 The objective of the surveys for breeding birds, reported in this document, is to determine the presence, assemblage and distribution of breeding bird species, within the Site and relevant zones of influence to determine any potential impacts of the Scheme on breeding birds.

1.4.2 This report includes the following information:

¹ A notable species is a species with no legal protection but is assigned a conservation designation

- relevant legislation and policy;
- methodologies for desk and field-based assessments undertaken in 2021 and 2022;
- limitations to the surveys undertaken and any assumptions made as a result of incomplete data;
- survey results;
- the approach for determining the nature conservation importance of breeding bird populations recorded during the assessments; and
- conclusions and recommendations.

2. Relevant Legislation and Policy

2.1 Legislative Context

Wildlife and Countryside Act

- 2.1.1 The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 7-2). Under the WCA, a wild bird is defined as any bird of a species that occurs in a wild state as a resident or a visitor to the European Territory of any member state.
- 2.1.2 When breeding, all birds, their nest, eggs and nestlings are afforded protection under the Wildlife and Countryside Act 1981, as updated by the 'Countryside Right of Way Act 2000' (Ref 7-4). Therefore, during the bird breeding season (typically March-August inclusive) it is an offence to:
- intentionally kill, injure or take any wild bird;
 - intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
 - intentionally take or destroy the eggs of any wild bird.
- 2.1.3 Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 7-4), for which there are additional offences for disturbing these birds at their nest, or their dependent young. Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. No licences are available for disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Directive of the Conservation of Wild Birds

- 2.1.4 A number of bird species recorded within the UK (including those that are resident, overwintering and migratory) are protected under European legislation under the Directive of the Conservation of Wild Birds (EU Birds Directive) (Ref 7-5), which lists 193 species, or sub-species, of birds in Annex 1 which are:
- in danger of extinction;
 - are rare, or have restricted local distribution;
 - are vulnerable to specific changes in their habitat; or
 - require particular attention for reasons of the specific nature of habitat.
- 2.1.5 This Directive is reflected in English law by the Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 7-6). Although the UK is no longer a member state of the European Union, the 2019 amendments to the Conservation of Habitats and Species Regulations 2017 (Ref 7-7) make it clear that provisions regarding the protection and designation of Special Protection Areas (SPAs) are maintained. Species listed on Annex 1 are those for which the UK Government takes special conservation measures including the designation of land as SPAs to ensure the survival and reproduction of these species throughout their distributions. These sites are automatically included within the National Site Network; a network of core breeding and resting sites that are protected for rare and threatened species.

Priority species

- 2.1.6 In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance for conservation in England under Section 41 of the Natural Environment and

Rural Communities (NERC) Act 2006 (Ref 7-8). These species are of material consideration during the planning process. Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.

- 2.1.7 The Joint Nature Conservation Committee (JNCC) UK Biodiversity Action Plan (UKBAP) (Ref 7-9) was launched in 1994 and identified UK BAP priority species of conservation concern that are the most threatened in the UK and requiring action under the UKBAP and for which action plans have been published. However, the work undertaken for the UKBAP is now focussed at a country level, rather than UK level, and the UKBAP has subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 7-10). However, the UK list of priority species remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland. For the purpose of this assessment, the UK BAP is still used as one of the criteria to assist in assigning national value to any given ecological receptor.

2.2 Other Guidance

Local Biodiversity Action Plan

- 2.2.1 The Site is located within the county of Buckinghamshire (see section 1.3 of this report). The Buckinghamshire and Milton Keynes Forward to 2030 Biodiversity Action Plan (BMKBAP) (Ref 7-15), sets out measures that will help to reverse the decline of biodiversity within the area, although focus of the work is primarily on habitats. Whilst the BMKBAP is focussed on habitats, without species specific action plans in the county, UK Priority species (Ref 7-20) that have been recorded within the county have been taken forward in this report as local priority species.

Birds of Conservation Concern

- 2.2.2 The Birds of Conservation Concern (BoCC) 5 (Ref 7-16) is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green), that indicate the level of conservation importance for each species, are derived from quantitative assessments from standardised criteria. The assessment is based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. The lists are drawn together by the UK's leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).

- 2.2.3 Red list species are of the most conservation concern and are those that:

- are globally threatened (Critically Endangered, Endangered and Vulnerable, but not Near Threatened) under International Union for Conservation of Nature and Natural Resources (IUCN) guidelines;
- have shown a historical population decline between 1800 and 1995 and have not recovered;
- have suffered a severe breeding population decline of more than 50% in either the last 25 years or the longer-term (since 1969);
- have suffered a severe non-breeding population decline of more than 50%; and
- whose UK range in either the breeding or non-breeding season has declined by more than 50% between respective breeding and non-breeding atlases.

- 2.2.4 Amber list species include:

- those that are threatened in Europe (Critically Endangered, Endangered and Vulnerable, but not Near Threatened as per IUCN Red List Guidelines);
 - those that were previously red-listed for historical population decline, followed by an increase of at least 100% over 25 years or the longer-term period;
 - those that have suffered a moderate breeding population decline of between 25% and 50% in either the last 25 years or the longer-term (since 1969);
 - those that have suffered a moderate non-breeding population decline of between 25% and 50%;
 - whose UK range in either the breeding or non-breeding season has declined by more than 50% between respective breeding and non-breeding atlases;
 - breeding or non-breeding rarities (UK population <300 breeding pairs or <900 non-breeding individuals);
 - breeding or non-breeding localisation whereby more than 50% of the UK population was found at ten or fewer sites in either the breeding or the non-breeding season; and
 - breeding or non-breeding international importance whereby the UK holds at least 20% of the European population in either the breeding or the non-breeding (WI) season of a particular species.
- 2.2.5 Green list species are not of conservation concern and include all other commonly occurring birds in the UK.
- 2.2.6 The BoCC lists confer no legal status, however where any BoCC Red or Amber-listed species are present at a site, their conservation status should be taken into account when determining the likely impacts (and significance) of proposed plans and projects and in determining the level of mitigation that may be required when birds are to be affected by plans or projects.

3. Methods

3.1 Desk Study

- 3.1.1 A desk study was undertaken in September 2021 through Buckinghamshire and Milton Keynes Environmental Records Centre (BMKERC) to obtain records of protected and notable bird species within a 2km radius of the Scheme.
- 3.1.2 Only records up to ten years old from the request date were considered within the assessment, as any records older than ten years are unlikely to be still representative of bird species in the local area.

3.2 Field Survey

Survey area

- 3.2.1 The survey area included all habitat within the Site and a minimum 50m survey buffer. Standardised survey buffers for assessing the impacts of development on bird populations do not exist, however, the survey area used provides information on the breeding birds within the area immediately surrounding the Site and includes areas contiguous with the Site, where birds may potentially be adversely affected. Depending on the sensitivity of the species, birds occurring outside of the survey area may also be adversely affected (such as those listed on Schedule 1 of the WCA) and therefore where any such species were recorded beyond the 50m survey buffer (up to 200m from the Site), these were also recorded. However, the 50m survey buffer is sufficient to determine the likely impacts of the Scheme on the majority of breeding bird species occurring or likely to occur in the area.
- 3.2.2 For ease of analysis in consideration of the size and locations of the Scheme, the survey area was split into compartment areas (Figure 1, Appendix A).
- Site 1;
 - Sub-site 1a;
 - Site 2; and
 - Site 3.

Territory mapping survey – general breeding bird assemblage

- 3.2.3 The survey was undertaken based on a standard territory mapping methodology for surveying breeding birds as detailed in Bibby *et al.* (2000) (Ref 7-17) and Gilbert *et al.* (1998) (Ref 7-18). This method is based on the principle that many species during the breeding season are territorial. This is found particularly amongst passerines, where territories are often marked by conspicuous song, display and periodic disputes with neighbouring individuals.
- 3.2.4 Six survey visits, approximately two weeks apart, were undertaken between March and mid-June 2022, as detailed in **Table 3-1**.

Table 3-1. Survey dates for each site visit

Visit number	Survey Dates
1	28 th to 30 th March 2022
2	20 th to 22 nd April 2022
3	5 th to 6 th May 2022
4	24 th to 25 th May 2022
5	7 th to 8 th June 2022

Visit number	Survey Dates
6	23 rd to 24 th June 2022

- 3.2.5 Survey routes followed the length of all hedgerows, fence-lines and field margins (including paths, tracks and roads). Deviations into areas of set-aside, stubble fields, scrub, woodland and other uncultivated habitats were made, where possible. The routes did not include ploughed or cultivated fields, due to the possibility of trampling and damaging crops. Fields containing livestock were avoided for safety reasons.
- 3.2.6 Regular stopping points were included along the survey route to record any species that may be passing through the survey area. Survey routes were mapped, and the direction walked alternated on each visit, to ensure that all areas were covered at various times of day across the duration of the survey. Surveys were undertaken early in the morning, commencing just after sunrise and finishing before midday. Each survey was undertaken during appropriate weather conditions for survey when the weather was dry, warm and with little to no wind.
- 3.2.7 On each visit, the survey route was walked at a slow pace with start and finish times noted. All birds seen and heard were recorded directly onto paper maps or an ArcGIS base map using Collector software on hand-held Samsung Tablet devices, with a 1:10,000 scale Ordnance Survey base map of the survey area. All bird species were recorded and mapped across the entire survey area. Specific codes were used to record bird behaviour, including singing, calling, flights and movements between areas, carrying food, nest building, aggressive encounters and other bird behaviour.
- 3.2.8 The expected outcome from the surveys is that mapped registrations fall into clusters, approximately coinciding with territories. A cluster is generally a spatially distinct group of registrations that represent the activity of not more than one pair. Ideally, clusters include registrations of territorial behaviour across all visits and are clearly demarcated from adjacent clusters by simultaneous recording of neighbouring birds. Where a species has closely packed territories, the mapping of simultaneously singing birds becomes essential. Territory boundaries are assumed to be between such birds.
- 3.2.9 Territory mapping methods produce analysis maps of non-overlapping ellipses encircling clusters of records thought to relate to separate pairs of breeding birds. These ellipses may not show the entire extent of the pairs' actual breeding territory which may be significantly larger; however, they are likely to show those areas in which the pair is most active.
- 3.2.10 On completion of the surveys, analysis maps were produced for each species, consisting of all registrations recorded during surveys. From these species maps, the number of territories was calculated by identifying the number of clusters present.
- 3.2.11 For late-arriving (to the UK) trans-Saharan migrants, e.g. Spotted Flycatcher *Muscicapa striata*, for which fewer potential contacts are possible, only one registration is required to form a territory cluster. A number of species are not territorial and are dealt with appropriately, e.g. Linnets, where data represent aggregations or loose colonies.
- 3.2.12 Standard registration mapping techniques were also used to record non-breeding species.
- 3.2.13 The following definitions were used to identify the breeding territory status of each species recorded:
- Confirmed: includes species for which territories were positively identified as a result of the number of registrations recorded; the location of an active nest; or the presence of recently fledged young / downy young;
 - Probable: includes a species pair observed in suitable nesting habitat during surveys; or agitated behaviour / anxiety calls from adults (suggesting the presence of a nest or young nearby). Behaviour was observed on insufficient occasions to confirm the presence of a territory;

- Possible: includes species observed during surveys in suitable nesting habitat; or a singing male present (or breeding calls heard) in suitable breeding habitat; or
- Non-breeding: species-specific information was used to determine fly-over species, or species suspected to be summering non-breeder.

3.3 Assessment of ornithological importance

3.3.1 The assessment of the ornithological importance of the Site during the breeding season was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in section 5 of this report. These include:

- species listed on Annex 1 of the EU Birds Directive (Ref 7-19);
- species listed on Schedule 1 of the WCA, 1981 (as amended) (Ref 7-4);
- priority bird species in the UK (Ref 7-20) or in Buckinghamshire (Ref 7-15); and
- species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists (Ref 7-16).

Species abundance

3.3.2 In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and biodiversity importance, consideration has to be given to the value of the survey area for the population of individual species that it supports. This can be done by comparing the population present within the survey area with the national and county breeding population for certain species. National estimates for breeding birds are published in a paper: *'Population estimates of birds in Great Britain and the United Kingdom'* (Ref 7-21). The BTO Bird Atlas 2007-2011 (Balmer *et. al.*, 2013) (Ref 7-22) was also reviewed for species information on a national level.

3.3.3 Information on populations of nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) (Ref 7-23).

3.3.4 County-level estimates on the breeding bird populations of the majority of species in Buckinghamshire were also obtained from county avifauna reports, where this information was available.

Species diversity

3.3.5 The number of species recorded in an area is a simple measure of diversity that can indicate its importance at each season of the year.

3.3.6 **Table 3-2** presents the breeding species diversity criteria as outlined in Fuller (1980) (Ref 7-24), which provides a method for assessing the ornithological interest of sites for conservation during the bird breeding season, based on the number of species present.

Table 3-2: Breeding species diversity criteria (Fuller, 1980)

Local	County	Regional	National
25-49	50-69	70-84	85+

3.3.7 It should be noted that Fuller's analysis was developed in the 1970s and, since then, species diversity has declined significantly. As a result, Fuller's thresholds are, in most circumstances, too high for today's breeding bird populations. However, it is not considered that the differences would be sufficient to increase the geographical scale at which the assemblages are considered to have value.

3.3.8 Local Wildlife Sites (LWS) (or County Wildlife Sites (CWS)) are among the most important places for wildlife in Buckinghamshire, together with legally protected land such as Sites of Special Scientific Interest (SSSIs).

3.3.9 As stated in the *Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*, an LWS in Buckinghamshire can be selected based on meeting the following specific criteria for birds (Ref 7-25):

- Criterion A: sites which support one or more ‘notable’ species; and
- Criterion 5.7.B: sites which support a significant assemblage of breeding birds associated with a habitat present on the site and exceeding the published indices (Ref 7-25).

Importance of the breeding bird population

3.3.10 To support a focussed assessment of the population of breeding birds within the Site, their biodiversity value has been defined with reference to the geographical level at which it matters. The frames of reference used in this report were made using the values presented in the ‘*Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine*’ (CIEEM, 2018) (hereafter referred to as the CIEEM Guidelines) (Ref 7-26); and professional judgement

3.3.11 The CIEEM guidelines use a framework, linked to a geographical scale at which the receptor has been valued (*i.e.* international, national, regional, county, local or site) and this method represents best practice guidance. This assessment criteria, set out in **Table 3-3**, has been used in conjunction with species rarity, abundance and diversity within the survey area to assess the biodiversity importance of the breeding bird populations recorded during the field surveys.

Table 3-3: Importance of Ornithological features

Importance of ornithological Descriptors and examples of criteria features

International or European	<p>Resident or regularly occurring populations of species which may be considered of value at an international or European level¹ where:</p> <ul style="list-style-type: none"> ▪ the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; ▪ the population forms a critical part² of a wider population at this scale; or ▪ the species is at a critical phase³ of its life cycle at this scale.
UK or National	<p>Priority species identified in the UK Post-2010 Biodiversity Framework <i>i.e.</i> UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity.</p> <p>Resident or regularly occurring populations of species which may be considered of value at a UK or a national level⁴ where:</p> <ul style="list-style-type: none"> ▪ the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; ▪ the population forms a critical part of a wider population at this scale; or

Importance of ornithological Descriptors and examples of criteria features

	<ul style="list-style-type: none"> ▪ the species is at a critical phase of its life cycle at this scale.
Regional	<p>Resident or regularly occurring populations of species which may be considered of value at a regional level⁵ where:</p> <ul style="list-style-type: none"> ▪ the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; ▪ the population forms a critical part of a wider population at this scale; or ▪ the species is at a critical phase of its life cycle at this scale.
County or Unitary Authority or District	<p>Resident or regularly occurring populations of species which may be considered of value at a County (or District)⁶ level where:</p> <ul style="list-style-type: none"> ▪ the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; ▪ the population forms a critical part of a wider population at this scale; or, ▪ the species is at a critical phase of its life cycle at this scale.
Local	<p>Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.</p>
Site**	<p>Populations of common and widespread species.</p>

¹ Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (*i.e.* EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended).

² Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, e.g. critical emigration and, or immigration links between otherwise discrete populations.

³ Seasonal activity or behaviour upon which survival or reproduction depends.

⁴ Species which may be considered at the UK or national level mean: birds which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (*i.e.* UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book.

⁵ A geographical area for Regional importance has not been defined. A feature is of Regional importance when it is of greater geographical importance than within the county of Buckinghamshire but does not reach the threshold to be of National importance.

⁶ Such species include those at county level (*i.e.* Buckinghamshire) including unitary authority area *i.e.* District level.

** Site is not included within the CIEEM guidelines, but is included hereafter in this report ** Site is not included within the CIEEM guidelines, but is included hereafter in this report

3.4 Assumptions and limitations

Desk Study

- 3.4.1 The aim of a desk study was to help characterise the baseline context of the Scheme and provide valuable background information that would not be captured by site surveys alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species does not occur in the study area. Likewise, the presence of records of species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Scheme.

Field Survey

- 3.4.2 It is considered that sufficient representatives of all habitat types and species were covered within the entirety of the survey period, to allow for a comprehensive assessment of bird species and assemblages present within the Scheme boundary.

4. Results

4.1 Desk Study

- 4.1.1 Records of 123 protected and, or notable bird species from the last ten years were returned within 2km of the Site (as presented in Appendix B).

4.2 Field Survey

- 4.2.1 A total of 57 species (including species listed on Schedule 1 of the WCA and Annex 1 of the EU Birds Directive) were recorded during surveys of breeding birds between March and June 2022.
- 4.2.2 Of the 57 species recorded within the survey area, territories of 39 species were confirmed and territories of a further ten species were considered to be probable or possible within the survey area, resulting in a breeding bird assemblage of 49 species. Records relating to the remaining eight species were of non-breeding species.
- 4.2.3 A summary of the breeding and conservation status of the 57 species recorded during the survey, with the numbers of territories identified (or thought likely in the case of probable and possible records) is provided in **Table 4-1**.
- 4.2.4 For species which are widespread throughout the survey area (e.g. Blue Tit *Cyanistes caeruleus*), common within Buckinghamshire and the UK and not of conservation concern (i.e. not listed on one or more of the lists of conservation concern as detailed in this report), the number of breeding territories of these species (including probable or possible) have not been calculated and these are referred to in **Table 4-1** as being present (P). Where non-breeding species were recorded as present, within one of the Scheme locations, these are referred to in **Table 4-1** using a tick (✓) to denote presence.
- 4.2.5 Breeding territory information for records of 'possible' breeders was also not calculated, due to the low number of registrations of birds; however, an estimation of the possible number of territories is included in parentheses in **Table 4-1**.

Table 4-1: Breeding status, number of territories and conservation status of birds recorded within the survey area for each Scheme area

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Scheme Area				Total number of breeding territories (where applicable)
			Site 1	Site 1a	Site 2	Site 3	
Greylag Goose <i>Anser anser</i>	BoCC Amber	Non-breeding	-	✓	-	✓	0
Mallard <i>Anas platyrhynchos</i>	BoCC Amber	Confirmed	✓	-	1	✓	1
Red-legged Partridge <i>Alectoris rufa</i>	-	Confirmed	(1)	(1)	2	-	2-4
Grey Partridge <i>Perdix perdix</i>	BoCC Red, Priority Species, LBAP	Probable	-	-	(1)	-	(1)
Pheasant <i>Phasianus colchicus</i>	-	Probable	P	P	P	P	P
Little Egret <i>Egretta garzetta</i>	Annex 1	Non-breeding	-	-	-	✓	0
Red Kite <i>Milvus milvus</i>	Annex 1, WCA Sch. 1	Confirmed	4	1	1	1	7
Buzzard <i>Buteo buteo</i>	-	Confirmed	(1)	1	-	-	1-2
Moorhen <i>Gallinula chloropus</i>	BoCC Amber	Confirmed	1	-	-	-	1
Stock Dove <i>Columba oenas</i>	BoCC Amber	Confirmed	1		(1)	(1)	1-3
Wood Pigeon <i>Columba palumbus</i>	BoCC Amber	Confirmed	2	2	5	2	11
Cuckoo <i>Cuculus canorus</i>	Priority Species, BoCC Red, LBAP	Possible	(1)	-	-	-	(1)
Barn Owl <i>Tyto alba</i>	WCA Sch. 1	Possible	(1)	-	-	-	(1)
Little Owl <i>Athene noctua</i>	-	Confirmed	1	-	-	-	1
Great Spotted Woodpecker <i>Dendrocopus major</i>	-	Confirmed	1	✓	1		2
Green Woodpecker <i>Picus viridus</i>	-	Confirmed	1	-	1	-	2

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Scheme Area				Total number of breeding territories (where applicable)
			Site 1	Site 1a	Site 2	Site 3	
Kestrel <i>Falco tinnunculus</i>	BoCC Amber	Non-breeding	-	-	✓	-	0
Hobby <i>Falco subbuteo</i>	WCA Sch. 1	Confirmed	-	-	1	-	1
Jay <i>Garrulus glandarius</i>	-	Probable	(1)	✓	-	-	(1)
Magpie <i>Pica pica</i>	-	Possible	(1)	-	✓	(1)	(2)
Jackdaw <i>Corvus monedula</i>	-	Confirmed	2	-	(1)	(2)	2-5
Carrion Crow <i>Corvus corone</i>	-	Probable	(1)	✓	(1)	✓	(2)
Raven <i>Corvus corax</i>	-	Confirmed	1	-	-	1	2
Coal Tit <i>Periparus ater</i>	-	Probable	(1)	-	-	-	(1)
Marsh Tit <i>Poecile palustris</i>	Priority Species, BoCC Red, LBAP	Possible	(2)	-	-	-	(2)
Blue Tit <i>Cyanistes caeruleus</i>	-	Confirmed	P	P	P	P	P
Great Tit <i>Parus major</i>	-	Confirmed	P	P	P	P	P
Skylark <i>Alauda arvensis</i>	Priority Species, BoCC Red, LBAP	Confirmed	16	1	17	-	34
Swallow <i>Hirundo rustica</i>	-	Non-breeding	-	-	-	-	0
Long-tailed Tit <i>Aegithalos caudatus</i>	-	Confirmed	P	P	P	-	P
Willow Warbler <i>Phylloscopus trochilus</i>	BoCC Amber	Confirmed	1	-	(1)	-	1-2
Chiffchaff <i>Phylloscopus collybita</i>	-	Confirmed	P	P	P	P	P
Blackcap <i>Sylvia atricapilla</i>	-	Confirmed	P	P	P	P	P
Garden Warbler <i>Sylvia borin</i>	-	Confirmed	1	-	1	-	2

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Scheme Area				Total number of breeding territories (where applicable)
			Site 1	Site 1a	Site 2	Site 3	
Lesser Whitethroat <i>Sylvia curruca</i>	-	Confirmed	4	1	1	-	5-6
Whitethroat <i>Sylvia communis</i>	BoCC Amber	Confirmed	12	1	18	-	P
Goldcrest <i>Regulus regulus</i>	-	Confirmed	-	-	1	-	1
Wren <i>Troglodytes troglodytes</i>	BoCC Amber	Confirmed	27	5	39	5	76
Treecreeper <i>Certhia familiaris</i>	-	Confirmed	1	-	(1)	-	1-2
Starling <i>Sturnus vulgaris</i>	Priority Species, BoCC Red, LBAP	Non-breeding	✓	-	-	-	0
Blackbird <i>Turdus merula</i>	-	Confirmed	P	P	P	P	P
Song Thrush <i>Turdus philomelos</i>	Priority Species, BoCC Amber, LBAP	Confirmed	6	1	4	2	13
Mistle Thrush <i>Turdus viscivorus</i>	BoCC Red	Possible	-	-	(1)	-	(1)
Spotted Flycatcher <i>Muscicapa striata</i>	Priority Species, BoCC Red, LBAP	Confirmed	-	-	1	-	1
Robin <i>Erithacus rubecula</i>	-	Confirmed	P	P	P	P	P
House Sparrow <i>Passer domesticus</i>	Priority Species, BoCC Red, LBAP	Confirmed	-	-	✓	-	0
Dunnock <i>Prunella modularis</i>	Priority Species, BoCC Amber, LBAP	Confirmed	15	1	14	2	32
Yellow Wagtail <i>Motacilla flava</i>	Priority Species, BoCC Red, LBAP	Confirmed	1	-	1	-	2
Pied Wagtail <i>Motacilla alba</i>	-	Non-breeding	✓	-	-	-	0
Meadow Pipit <i>Anthus pratensis</i>	BoCC Amber	Non-breeding	-	-	✓	-	0
Chaffinch <i>Fringilla coelebs</i>	-	Confirmed	P	P	P	P	P

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Scheme Area				Total number of breeding territories (where applicable)
			Site 1	Site 1a	Site 2	Site 3	
Bullfinch <i>Pyrrhula pyrrhula</i>	Priority Species, BoCC Amber, LBAP	Confirmed	-	-	1	-	1
Greenfinch <i>Chloris chloris</i>	BoCC Red	Non-breeding	✓	-	✓	-	0
Linnet <i>Linaria cannabina</i>	Priority Species, BoCC Red, LBAP	Confirmed	1	-	3	-	4
Goldfinch <i>Carduelis carduelis</i>	-	Confirmed	P	P	P	P	P
Yellowhammer <i>Emberiza citrinella</i>	Priority Species, BoCC Red, LBAP	Confirmed	12	2	16	2	32
Reed Bunting <i>Emberiza schoeniclus</i>	Priority Species, BoCC Amber, LBAP	Confirmed	1	-	3	-	4
Total number of species			44	24	42	22	57
Total number of breeding species			40	20	37	18	49

5. Evaluation

5.1 Desk Study

5.1.1 Records of 123 bird species were returned from the BMKERC desk study. Of these 122 species (of which some species are assigned to more than one list):

- 20 are listed on Annex 1 of the EC Birds Directive (Ref 7-19);
- 32 are listed as Priority Species (Ref 7-20);
- 38 species are included on the BoCC Red List (Ref 7-16); and
- 48 species are included on the BoCC Amber List (Ref 7-16).

5.2 Field Survey

5.2.1 Breeding territories of 39 species were confirmed within the whole Scheme survey area during surveys for breeding birds in 2022 and a further ten species were probably or possibly on breeding territories within the survey area, resulting in a breeding bird assemblage of 49 species.

5.2.2 From the breeding assemblage of 49 species, recorded during field surveys:

- one species is included on Annex 1 of the EU Birds Directive;
- three species are included on Schedule 1 of the Wildlife and Countryside Act (1981, as amended);
- 13 species are listed as a Priority Species in the UK;
- 10 species are included on the BoCC Red List; and
- 11 species are included on the BoCC Amber List.

5.2.3 The number of confirmed (and probable or possible) territories of bird species of conservation interest within each Scheme area are included in **Table 5-1**.

Table 5-1: Number of breeding species of conservation interest recorded within each Scheme area

Conservation Designation	Site 1	Sub-site 1a	Site 2	Site 3
Annex 1	1	1	1	1
WCA Schedule 1	2	1	2	1
Priority Species	10	4	10	3
BoCC Red	6	2	7	1
BoCC Amber	9	5	10	5

Specially Protected Species

Annex 1 species

5.2.4 One species (Red Kite) listed on Annex 1 (Ref 7-19) of the EU Birds Directive (Ref 7-5) were breeding within the survey area.

- 5.2.5 Little Egret is also listed on Annex 1 of the EU Birds Directive, but was not breeding within the survey area. There is no habitat within the survey area to support breeding Little Egret (which rely on large waterbodies and their margins (such as mature trees) for breeding). Little Egret was recorded on two occasions at Site 3, flying over the Site.

Schedule 1 listed species

- 5.2.6 Three species included on Schedule 1 of the WCA, 1981 (as amended) were confirmed to be holding breeding territories within the survey area in 2022 or were thought to have probable / possible territories. These were: Hobby (one territory), Red Kite (minimum of seven territories) and Barn Owl (one possible territory).
- 5.2.7 An occupied Hobby nest was recorded in a hedgerow tree between arable fields in Site 2.
- 5.2.8 High numbers (peak of 63 birds on 24th May 2022) of Red Kite were recorded across the Site, particularly in the north of Site 1 due to the plentiful food supply provided by the nearby landfill site. An occupied nest was recorded on the north-eastern boundary of Site 3. Whilst no other Red Kite nests were recorded within the survey area, there were a minimum of seven territories recorded and the woodland habitats, coupled with the large numbers of birds in the area, suggest that the majority of nesting attempts were within woodland blocks rather than on woodland edge or in isolated trees.
- 5.2.9 Barn Owl was recorded calling along the eastern edge of Site 1, although breeding was not confirmed. However, the habitat on site, which includes grassland margins and mature trees (some with cavities) is likely to support this species and therefore this calling bird has been included as a possible territory.

Species of Conservation Importance

Priority Species

- 5.2.10 13 species (Grey Partridge, Cuckoo, Marsh Tit, Skylark, Song Thrush, Spotted Flycatcher, House Sparrow, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting) with breeding territories confirmed or having probable, or possible breeding territories within the survey area are listed as Species of Principal Importance prepared under Section 41 of the Natural Environment and Rural Communities Act 2006.
- 5.2.11 Of the 13 priority species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see section 1.3) were (see also **Table 5-1**):
- ten within Site 1 (Cuckoo, Marsh Tit, Skylark, Song Thrush, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting);
 - four within Sub-Site 1a (Skylark, Song Thrush, Dunnock and Yellowhammer);
 - ten within Site 2 (Grey Partridge, Skylark, Song Thrush, Spotted Flycatcher, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting); and
 - three within Site 3 (Song Thrush, Dunnock and Yellowhammer).

Birds of Conservation Concern

- 5.2.12 Breeding territories were confirmed, or thought probable, or possible for ten species (Grey Partridge, Cuckoo, Marsh Tit, Skylark, Mistle Thrush, Spotted Flycatcher, House Sparrow, Yellow Wagtail, Linnet and Yellowhammer) within the survey area that are included on the BoCC Red List.
- 5.2.13 Of the ten BoCC Red listed species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see section 1.3) area were (see also **Table 5-1**):

- six within Site 1 (Cuckoo, Marsh Tit, Skylark, Yellow Wagtail, Linnet and Yellowhammer);
 - two within Sub-Site 1a (Skylark, and Yellowhammer);
 - seven within Site 2 (Grey Partridge, Skylark, Mistle Thrush, Spotted Flycatcher, Yellow Wagtail, Linnet and Yellowhammer); and
 - one within Site 3 (Yellowhammer).]
- 5.2.14 Breeding territories were confirmed, or thought probable, or possible for eleven species (Mallard, Moorhen, Stock Dove, Woodpigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Bullfinch and Reed Bunting) within the survey area that are included on the BoCC Amber List.
- 5.2.15 Of the eleven BoCC Amber listed species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see section 1.3) were (see also **Table 5-1**):
- nine within Site 1 (Moorhen, Stock Dove, Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock and Reed Bunting);
 - five within Sub-site 1a (Wood Pigeon, Whitethroat, Wren, Song Thrush and Dunnock);
 - ten within Site 2 (Mallard, Stock Dove, Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Bullfinch and Reed Bunting); and
 - five within Site 3 (Stock Dove, Wood Pigeon, Wren, Song Thrush and Dunnock).
- 5.2.16 Inclusion on the BoCC Red or Amber list does not confer any statutory protection. However, the species concerned are all of conservation importance and considered to be under varying levels of threat in a UK context.

5.3 Species Abundance

- 5.3.1 In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and conservation value, consideration has to be given to the value of the site for the population of individual species that it supports. This can be done by comparing the population present on site with the national and county breeding population for that species.
- 5.3.2 No species is present within the survey area in numbers of national significance (i.e., 1% of the national population) when compared to national population estimates as given in Woodward et, al. (2020).
- 5.3.3 The breeding populations of Red Kite (minimum seven) and Barn Owl (one possible territory) recorded within the survey area are unlikely to represent a significant proportion (i.e., 1%) of the Buckinghamshire breeding population, but may represent a population of value at a district level. The single territory of Hobby potentially represents or approaches a significant proportion of the county population, although this species is a secretive breeder in hedgerows and woodland and is often only detected once breeding has completed and the young have fledged. Breeding is likely to occur in more inaccessible farmland areas around Buckinghamshire than is reported by the RBBP and therefore it is likely that the true population in Buckinghamshire is under-recorded and likely to be greater than that reported.
- 5.3.4 No other species recorded in the survey area were recorded in a figure approaching 1% of the county breeding population estimates in Buckinghamshire. The numbers of individuals of the majority of each species recorded were all relatively low and did not represent significant proportions (i.e. 1 % or more) of the county populations in Buckinghamshire.
- 5.3.5 Therefore, besides Hobby, species' populations within the Site boundary are considered to be of no more than local importance.

5.4 Species Diversity

- 5.4.1 To measure species diversity, the breeding assemblage (49) recorded in the survey area was evaluated against the criteria developed by Fuller (Ref 7-24) and taking into consideration that species diversity has declined significantly since the criteria were developed. The breeding assemblage score of 49 species would regard the value of the whole Scheme area, as being of **county** importance for breeding birds.
- 5.4.2 Evaluation of the breeding species assemblage and numbers recorded during surveys, with respect to criteria for selection of Local Wildlife Sites (of County value) in Buckinghamshire (Ref 7-25) indicates that the Site:
- does not support any 'notable' species listed in the '*Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*' (Ref 7-25); and
 - does not support an assemblage of breeding birds with a value equal to or exceeding the published indices (Ref 7-25) associated with the habitats present on the Site.

5.5 Species Distribution

- 5.5.1 The location of Schedule 1 species, Priority species, BoCC Red and Amber-listed bird species, (see **Table 5-1**) are presented in Figures 2a-2s (Appendix A). In general, concentrations of species were found within the most suitable habitats to support each individual species' needs (i.e. species reliant on waterbodies were found on Site close to water, species that require woodland habitat, were found within woodland habitat on Site, etc).

5.6 Evaluation of key habitat types for breeding birds

- 5.6.1 A summary of the broad habitat types present in the survey area and their key ornithological features, are presented in **Table 5-2**.

Table 5-2: Key Ornithological Features of habitat within the Survey Area

Broad Habitat Type	Key Ornithological Features
Waterbodies (ponds and agricultural reservoirs)	Supports species associated with wetland features, such as Mallard (and other waterfowl).
Arable farmland	The predominant habitat type occurring across the Site. Supports a number of notable breeding species of conservation concern, including Skylark.
Scrub / hedgerows	Scrub and hedgerows across the Site. Supports breeding species of conservation concern, such as Yellowhammer and Linnet.
Mature trees / woodland	Parcels of woodland and individual trees scattered throughout the Site. Supports species such as Green Woodpecker, as well as species often found in scrub / hedgerows.

6. Conclusions

- 6.1.1 A breeding assemblage of 49 species was recorded within the survey area, with the importance of the survey area being of up to County importance for breeding birds.
- 6.1.2 Three species (Red Kite, Barn Owl and Hobby), listed on Schedule 1 of the Wildlife and Countryside Act (1981), were recorded as having confirmed or possible (Barn Owl only) territories on site. Red Kite is also listed on Annex 1 of the EU Birds Directive.
- 6.1.3 Thirteen species are listed as a priority species in the UK Biodiversity Action Plan and as a species of principal importance under Section 41 of the NERC Act, ten species are included on the BoCC Red list and eleven species are included on the BoCC Amber list.
- 6.1.4 No species were present within the survey area in numbers of national significance, i.e. 1% or more of the UK population, when compared to national population estimates as given in a paper by Woodward *et al.* (2020).
- 6.1.5 The single territory of Hobby is likely to represent a significant proportion of the county population. Therefore, a single territory of Hobby is of county importance.
- 6.1.6 The construction of the Scheme, in the absence of avoidance or mitigation, has the potential to affect the breeding bird assemblage recorded within the Site boundary. These potential effects include:
- Habitat loss and fragmentation;
 - Displacement and/ or loss of breeding populations;
 - Increase in noise, causing disturbance; and
 - Visual disturbance.

7. References

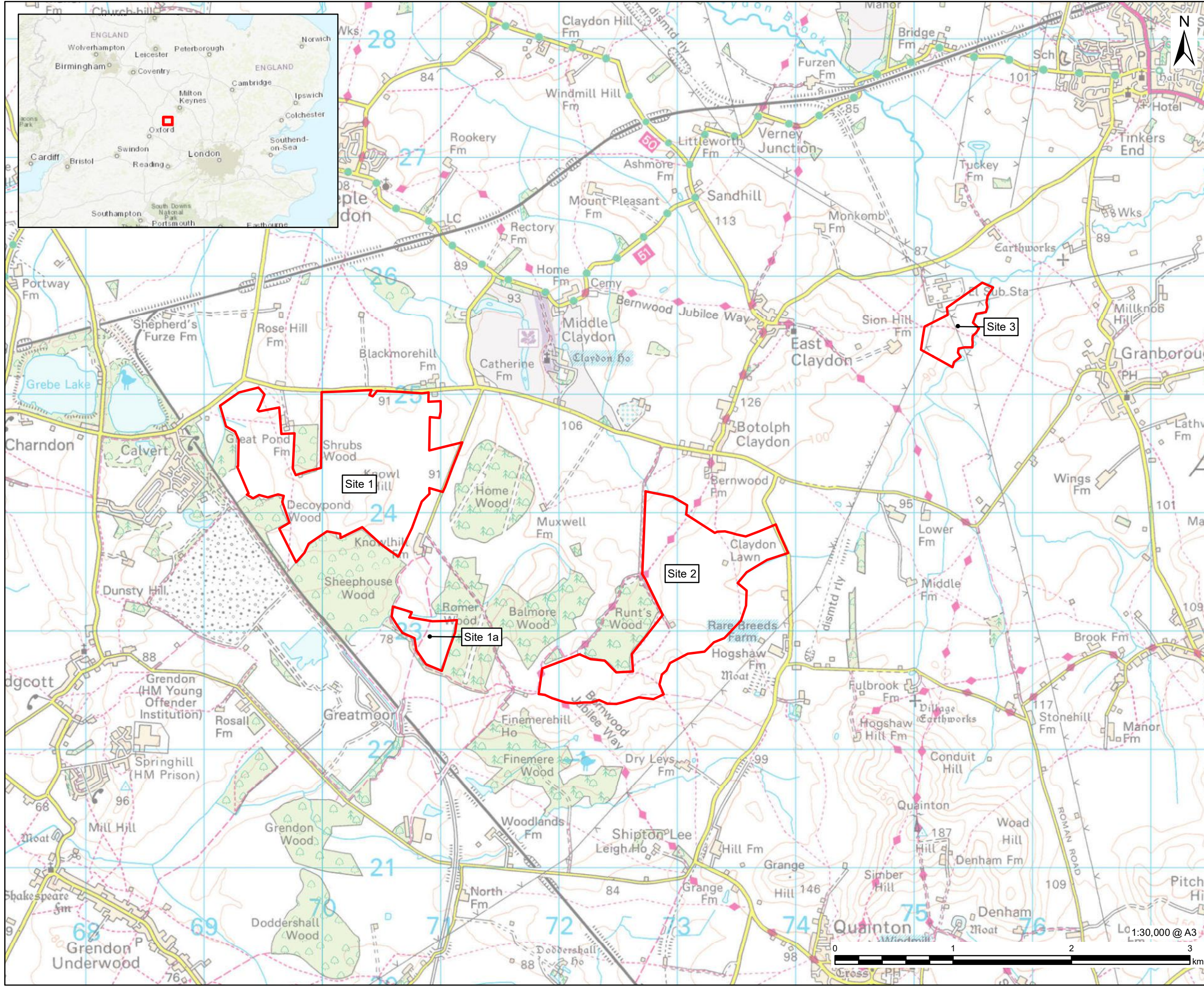
- Ref 7-1 AECOM, 2021. Custodian Solar Farm Ecological Appraisal.
- Ref 7-2 HMSO. (1981). Wildlife & Countryside Act 1981 (as amended). <https://www.legislation.gov.uk/ukpga/1981/69>.
- Ref 7-3 HMSO (2000). Countryside and Rights of Way Act 2000. HMSO, London.
- Ref 7-4 Anon. (1981). The Wildlife & Countryside Act. HMSO, London.
- Ref 7-5 EC (2009). Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). EC, Brussels.
- Ref 7-6 HMSO (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.
- Ref 7-7 HMSO. (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. <https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents>.
- Ref 7-8 Anon. (2006). The Natural Environment and Rural Communities Act. HMSO, London.
- Ref 7-9 Anon. (2008). UK Biodiversity Action Plan.
- Ref 7-10 JNCC, UK Post-2010 Biodiversity Framework, 2012, available at <http://jncc.defra.gov.uk/page-6189> (Accessed July 2020).
- Ref 7-11 National Planning Policy Framework 2021. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.
- Ref 7-12 DECC (2021). Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf.
- Ref 7-13 DECC (2021) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015236/en-3-draft-for-consultation.pdf.
- Ref 7-14 DECC (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5), Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure>.
- Ref 7-15 Natural Environment Partnership. (2020). Forward to 2030: Biodiversity Action Plan. Forward to 2030 – Buckinghamshire & Milton Keynes Natural Environment Partnership (bucksmknep.co.uk).
- Ref 7-16 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5. *British Birds* 114: 723-747.
- Ref 7-17 Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques*: 2nd edition. Academic Press, London.
- Ref 7-18 Gilbert G., Gibbons D.W., and Evans J. (1998) *Bird Monitoring Methods: A manual of techniques for key UK species*. RSPB, Bedfordshire.
- Ref 7-19 European Commission. Wild Birds: Threatened bird species in Annex I https://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/index_en.htm.
- Ref 7-20 JNCC. (2007). List of UK BAP Priority Bird Species. <https://data.jncc.gov.uk/data/98fb6dab-13ae-470d-884b-7816afce42d4/UKBAP-priority-birds.pdf>.

- Ref 7-21 Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 113: 69-104.
- Ref 7-22 Balmer, D., Gillings, G., Caffrey, B., Swann, B., Downie, I. and Fuller, R., (2013). *Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland*. BTO.
- Ref 7-23 Eaton M. and the Rare Breeding Birds Panel (2020) Rare breeding birds in the United Kingdom in 2018. *British Birds* 113, 727-804.
- Ref 7-24 Fuller, R.J. (1980). A Method for Assessing the Ornithological Interest of Sites for Conservation. *Biological Conservation* 17, 229-239.
- Ref 7-25 BMERC and TVERC. (2009). *Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*.
- Ref 7-26 CIEEM (2018). *Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine*.

Appendix A: Figures

Figure 1 Site Location

Figures 2a-2r Distribution of territories for species of conservation concern



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Rosefield Solar Farm

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Rosefield EnergyFarm Ltd

CONSULTANT
AECOM Limited
Unit 1 Wellbrook Court,
Girton, Cambridge,
CB3 0NA
www.aecom.com

LEGEND
Site boundary

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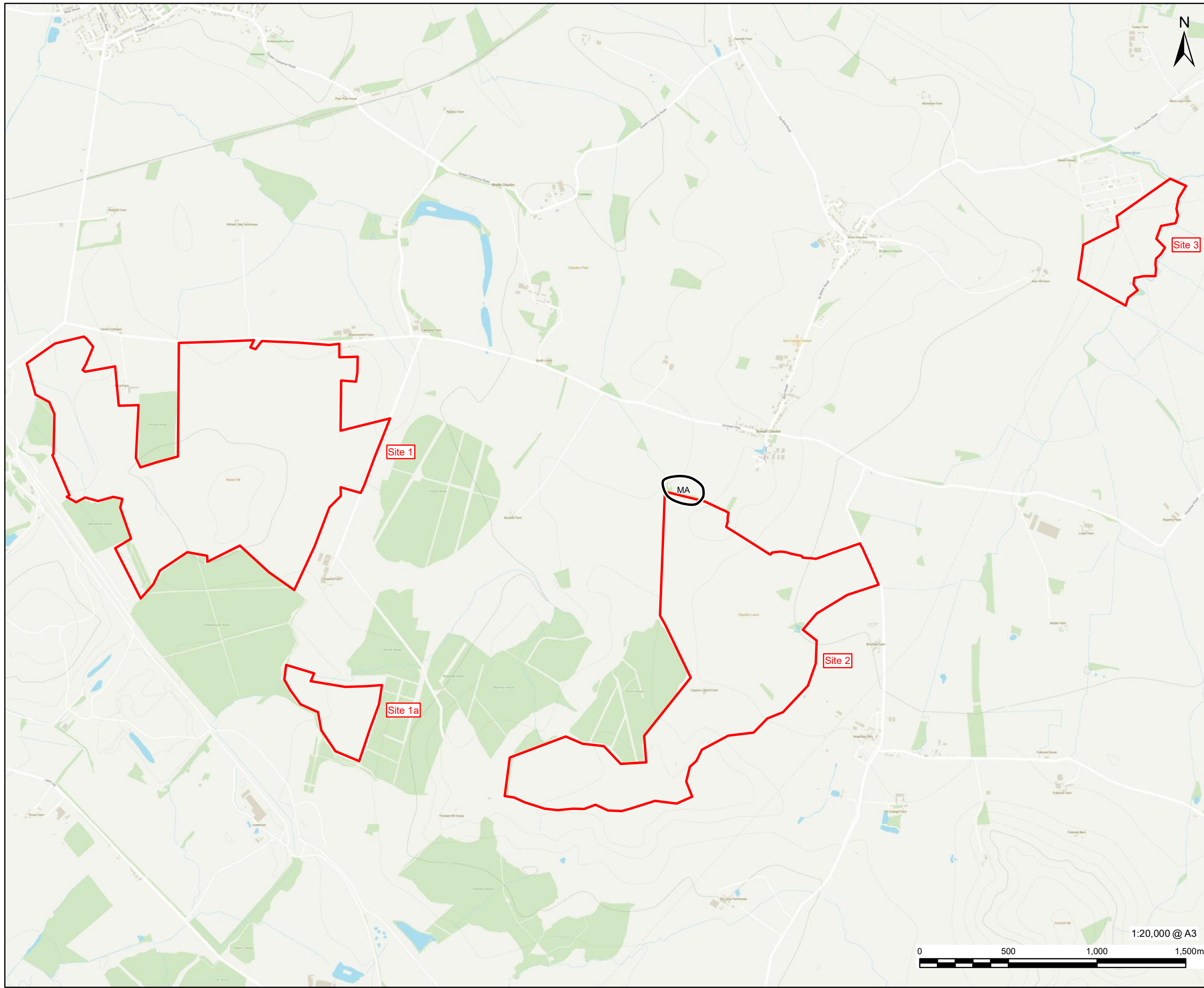
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FIGURE TITLE
Site Location

FIGURE NUMBER
Figure 1

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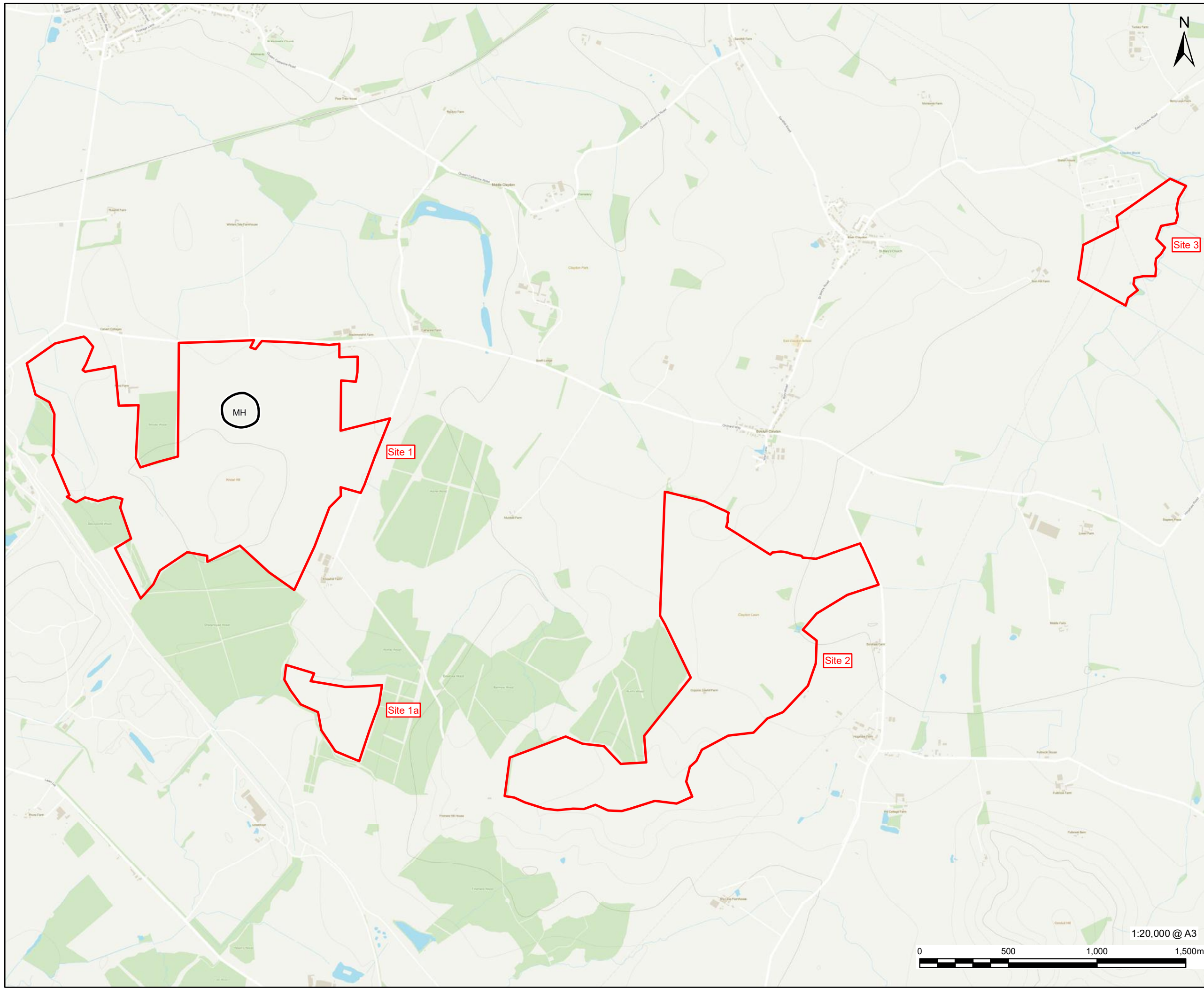
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Figures 2b Distribution of territories for species of conservation concern
Red Kite (*Milvus milvus*)

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LEGEND
 Site boundary
 Breeding bird territory
 ○ Moorhen (MH) [1 terr.]

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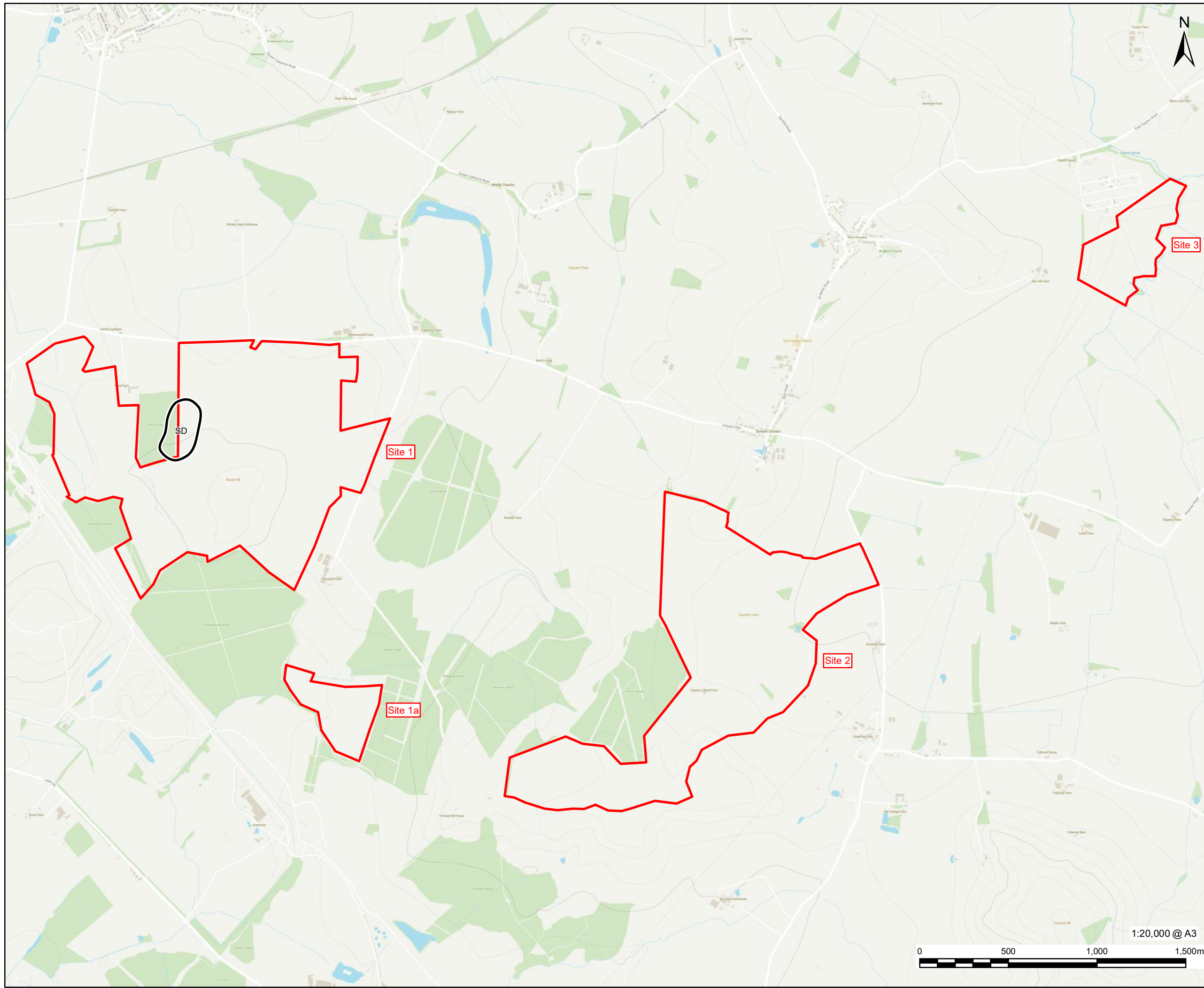
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FIGURE TITLE
 Distribution of Species of Conservation Concern
 Moorhen
 (*Gallinula chloropus*)

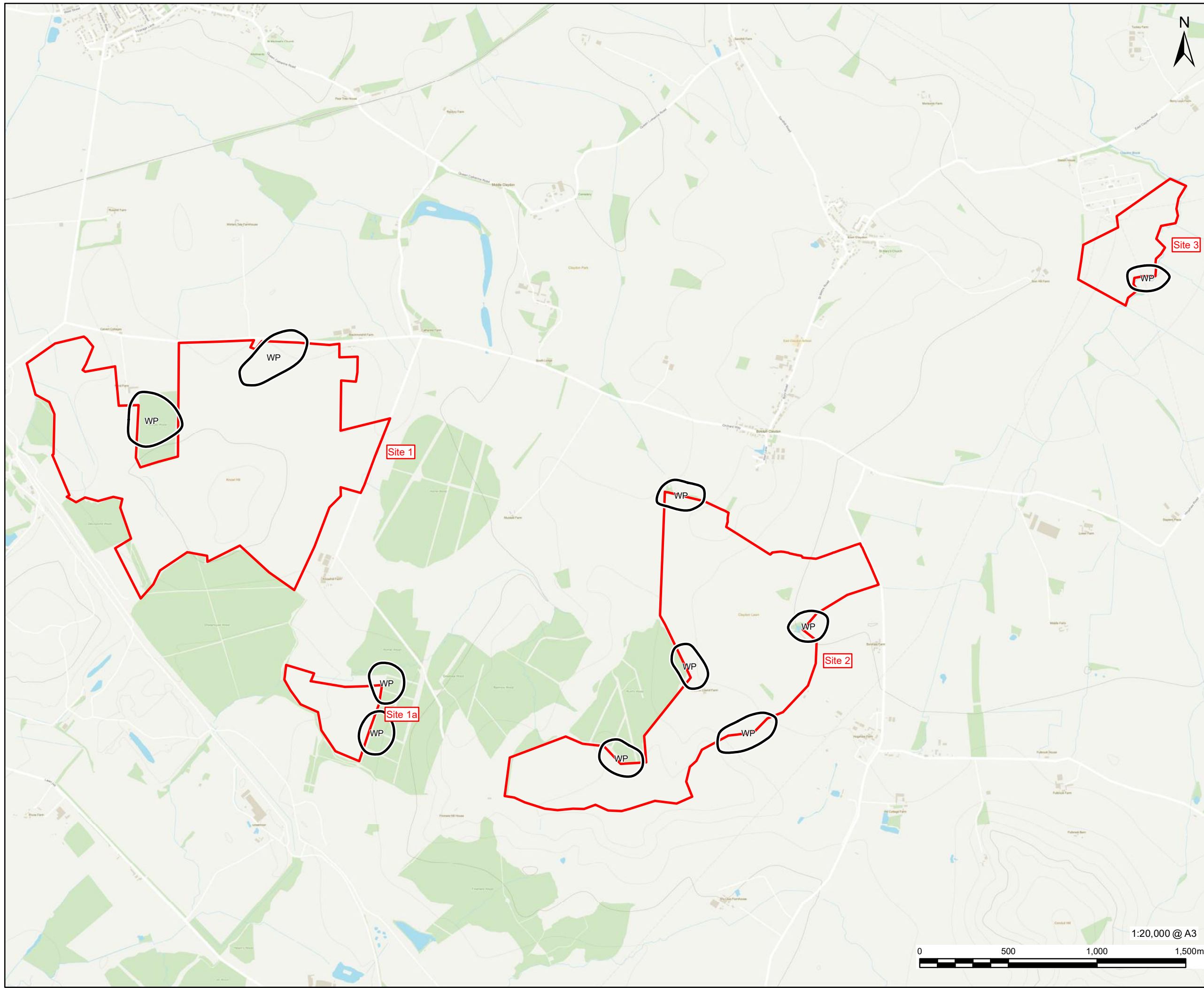
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 Figure 2c



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LEGEND

- Site boundary
- Breeding bird territory
- Woodpigeon (WP) [10 terr.]

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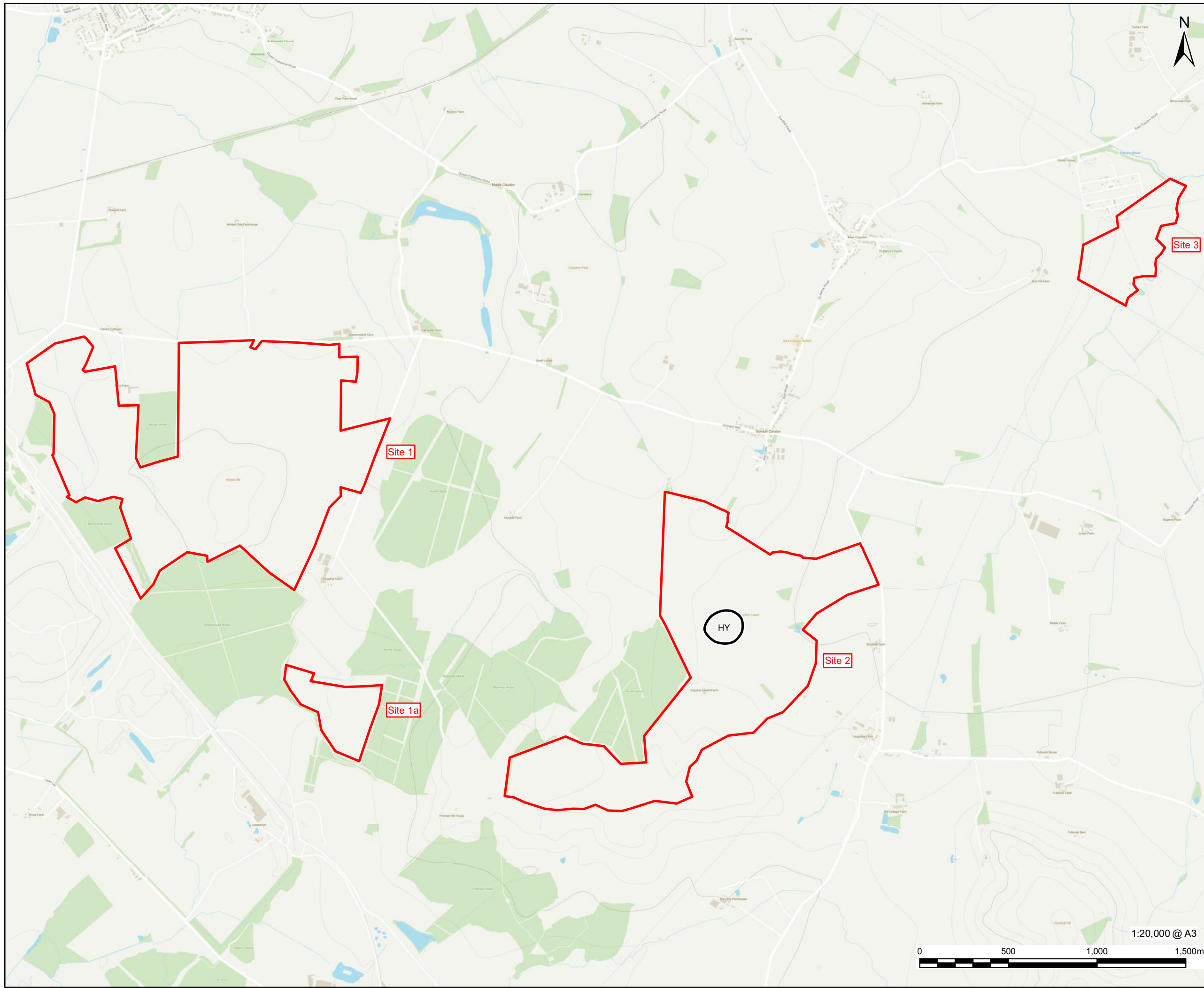
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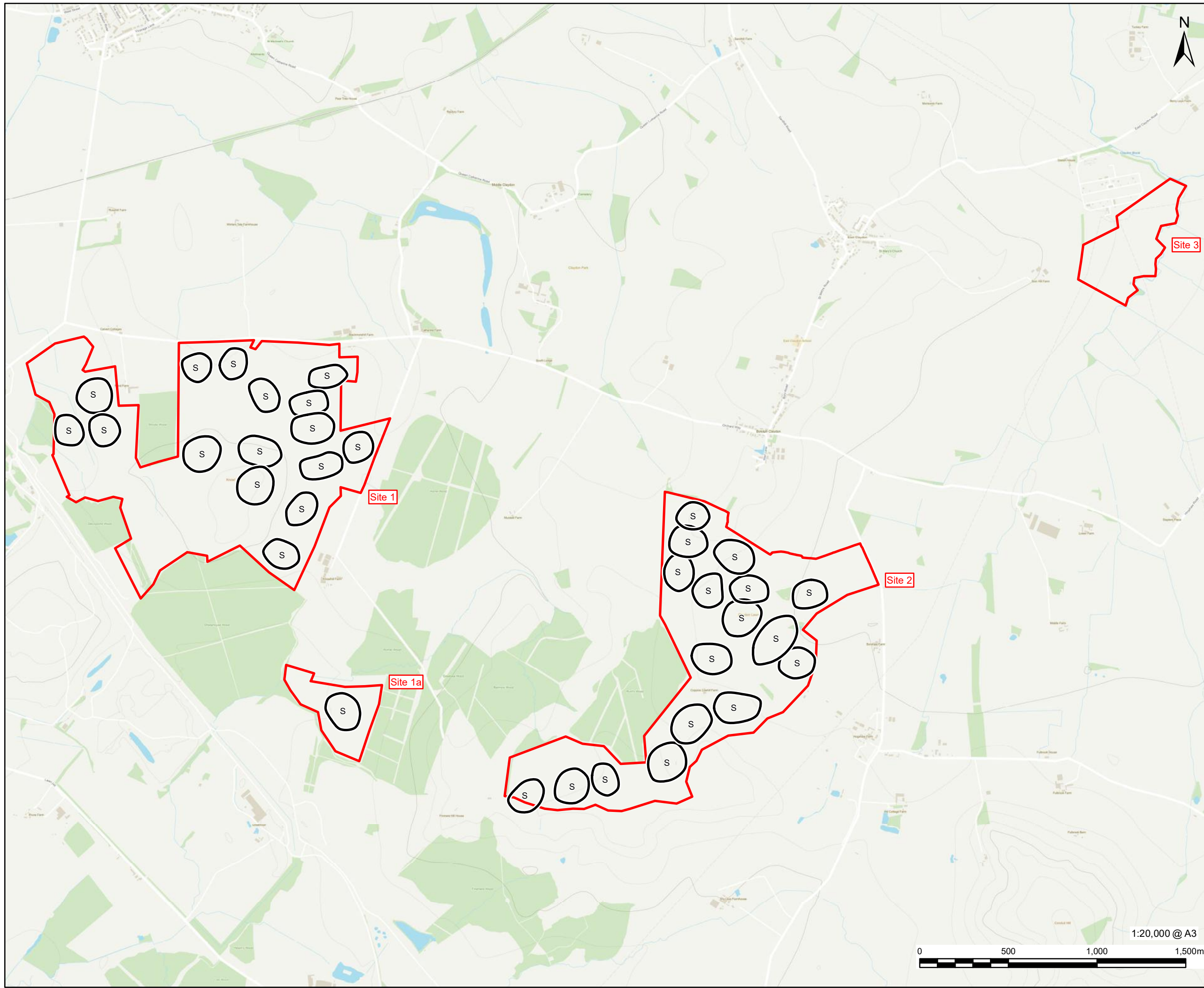
FIGURE TITLE
Distribution of Species of Conservation Concern
Woodpigeon
(*Columba palumbus*)

FIGURE NUMBER
Figure 2e

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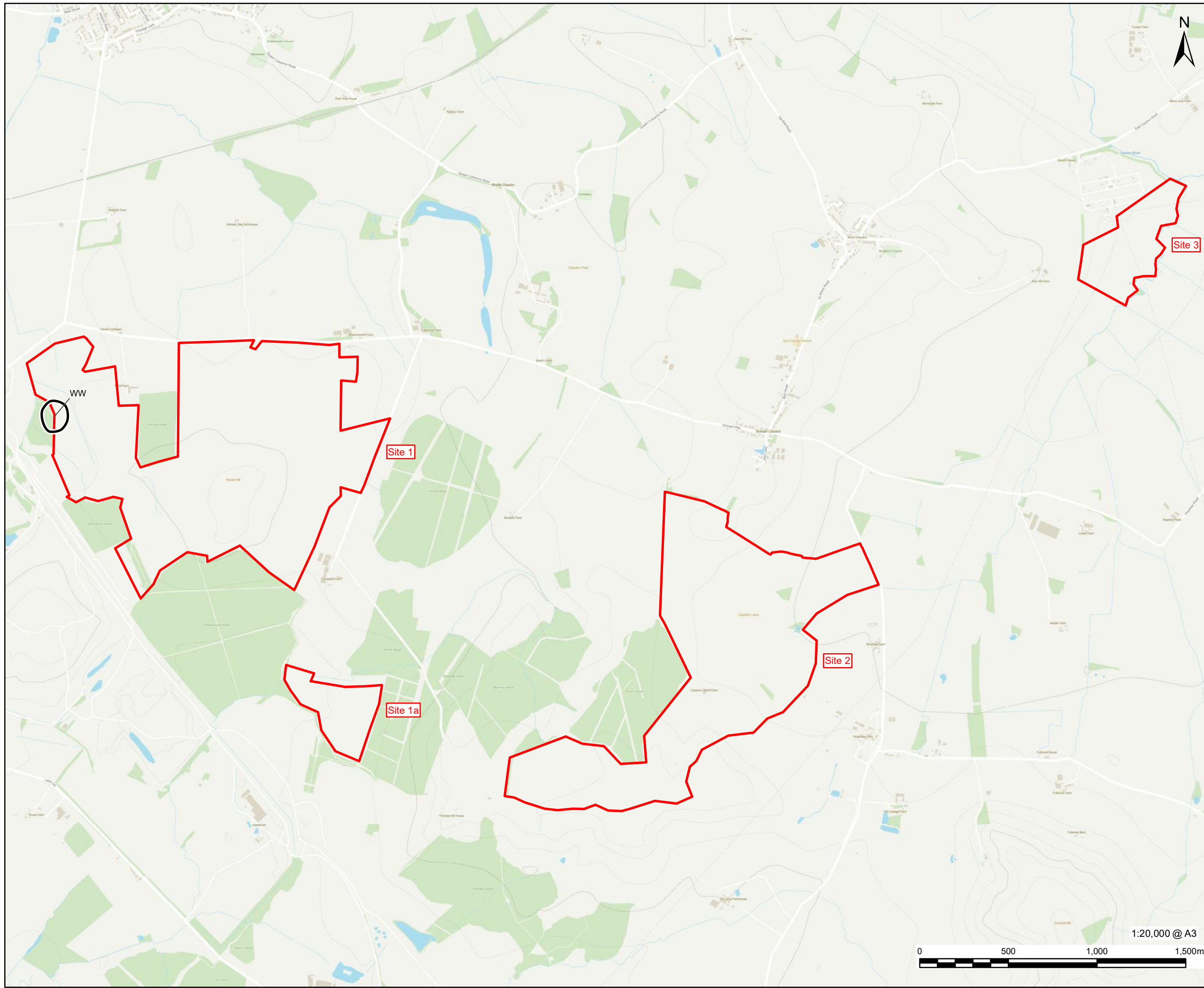


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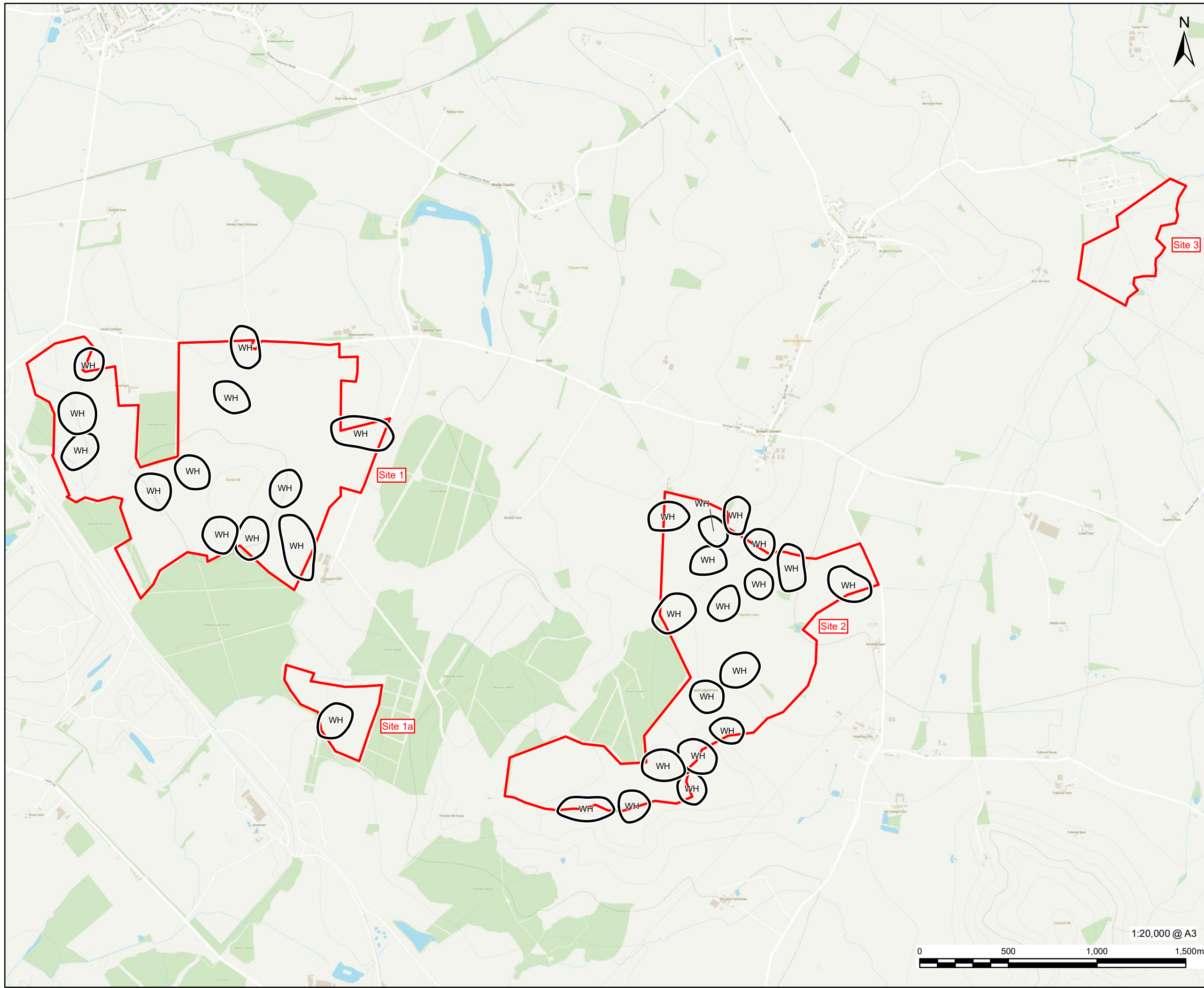


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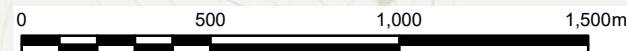
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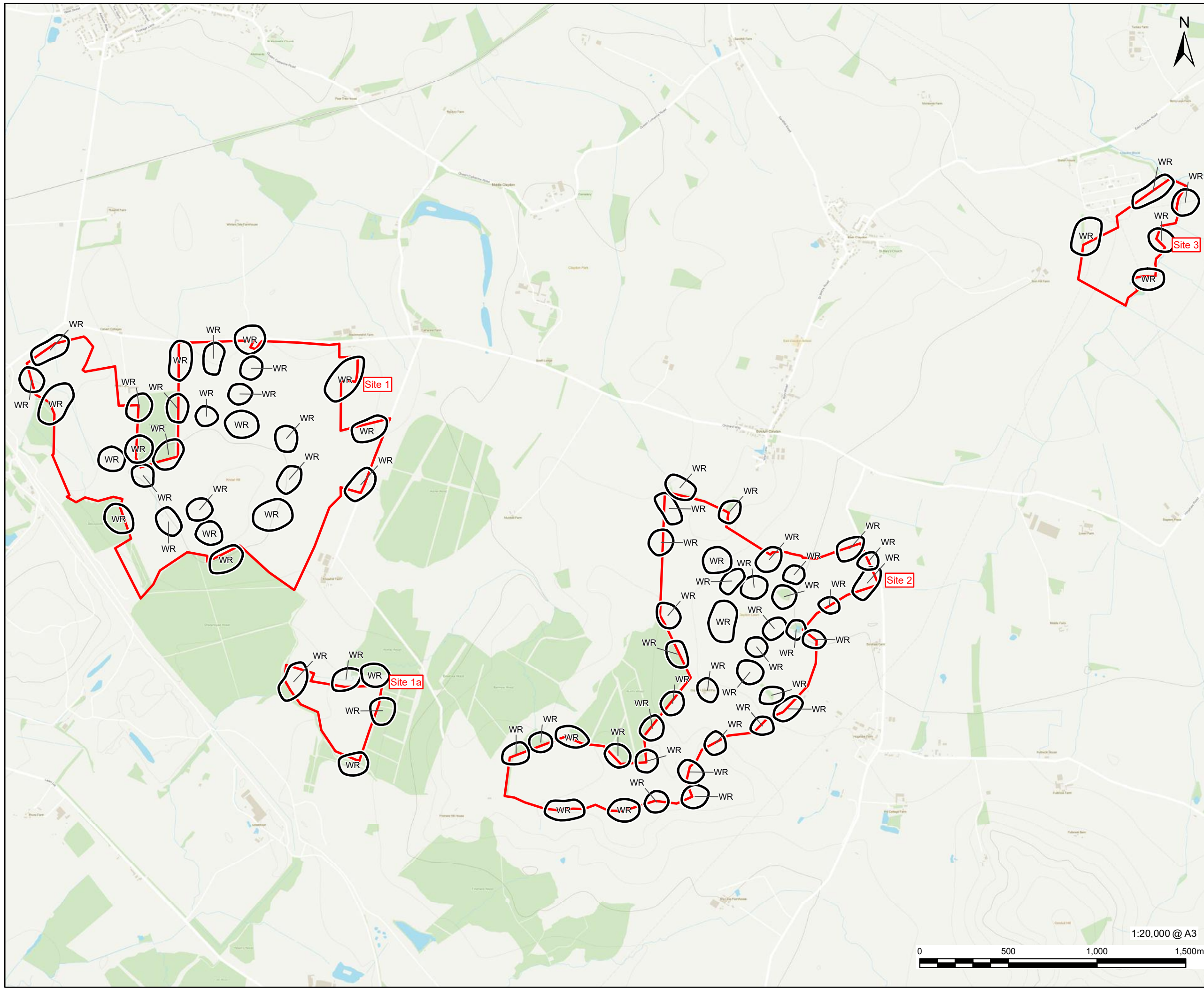
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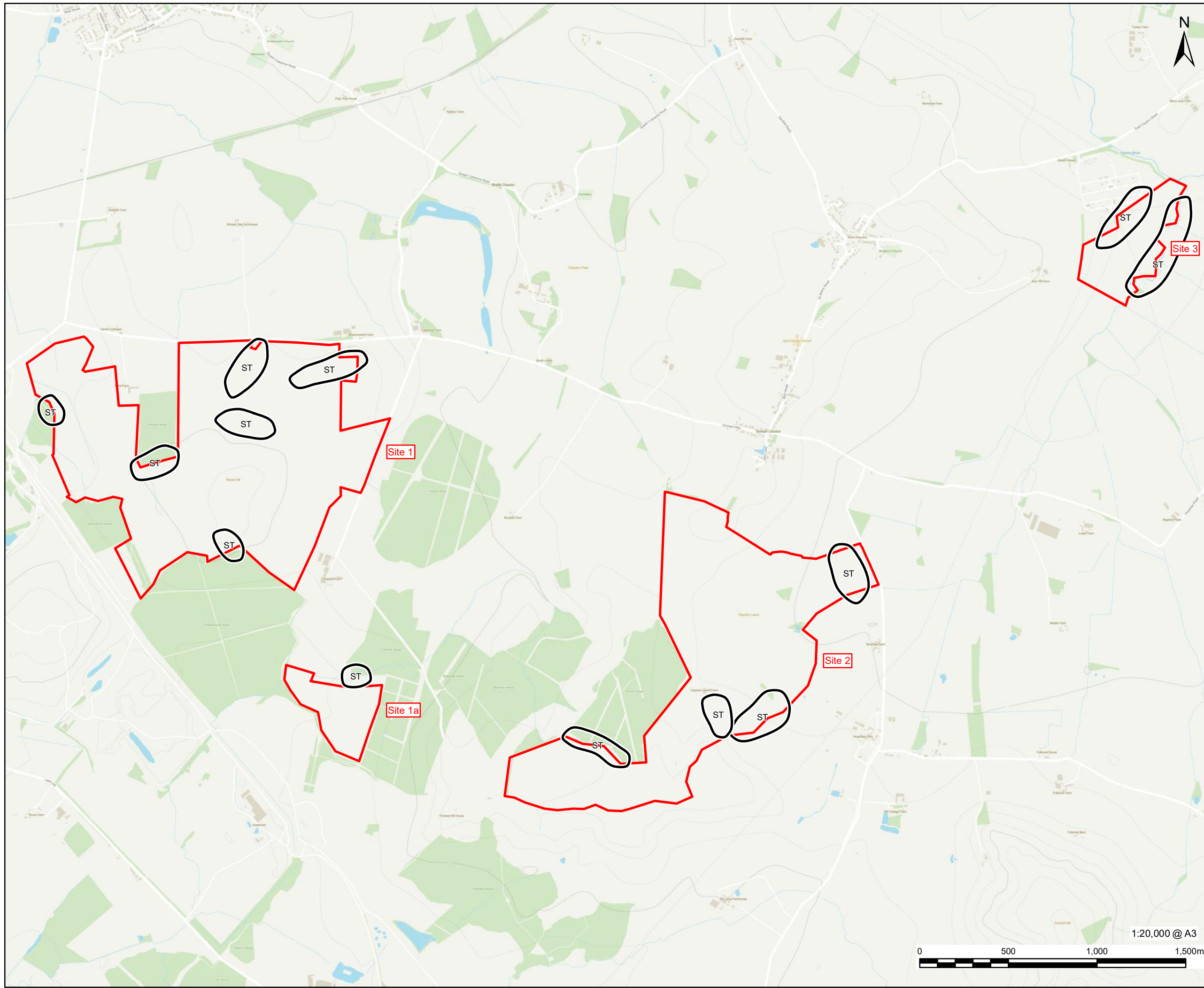
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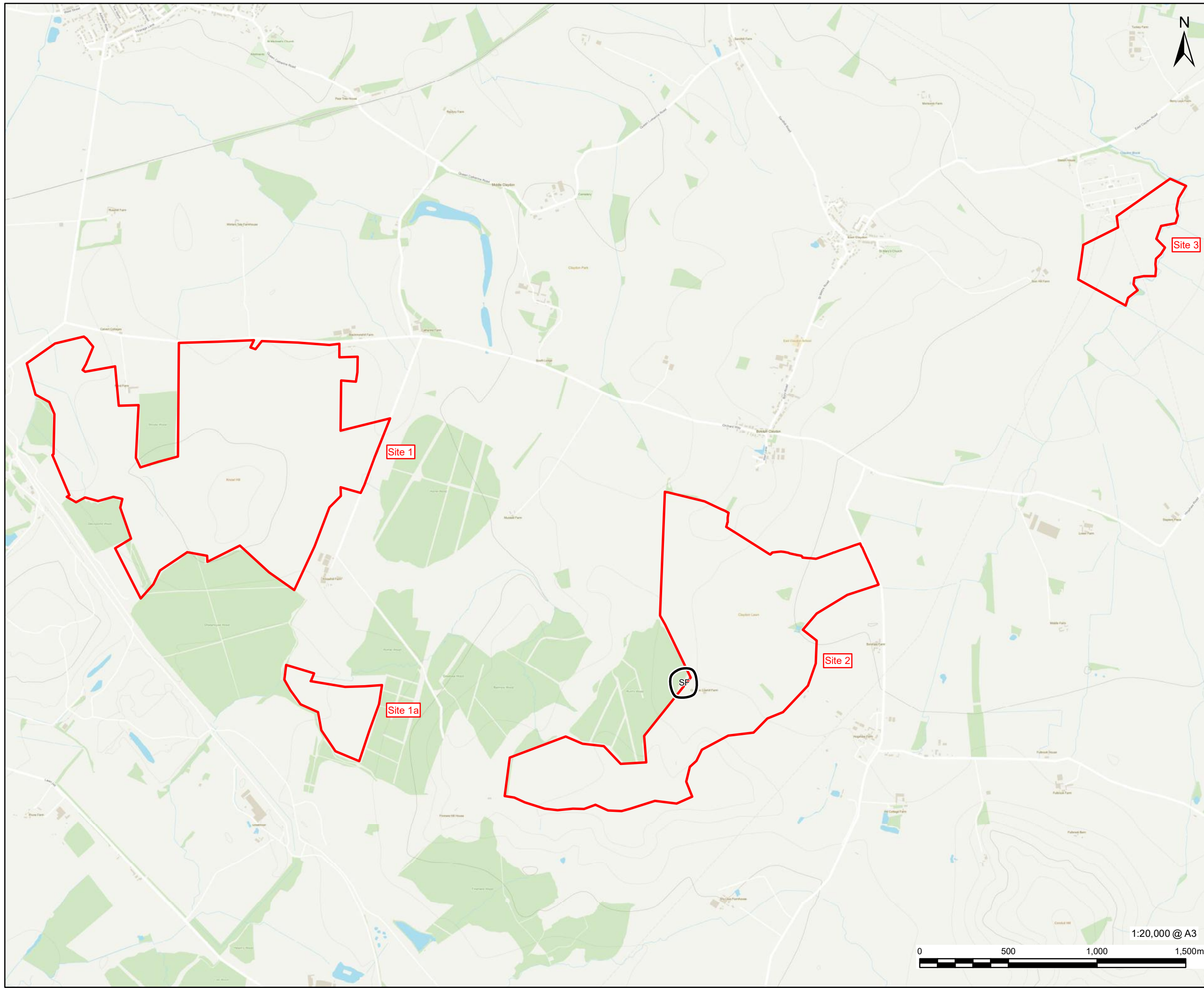
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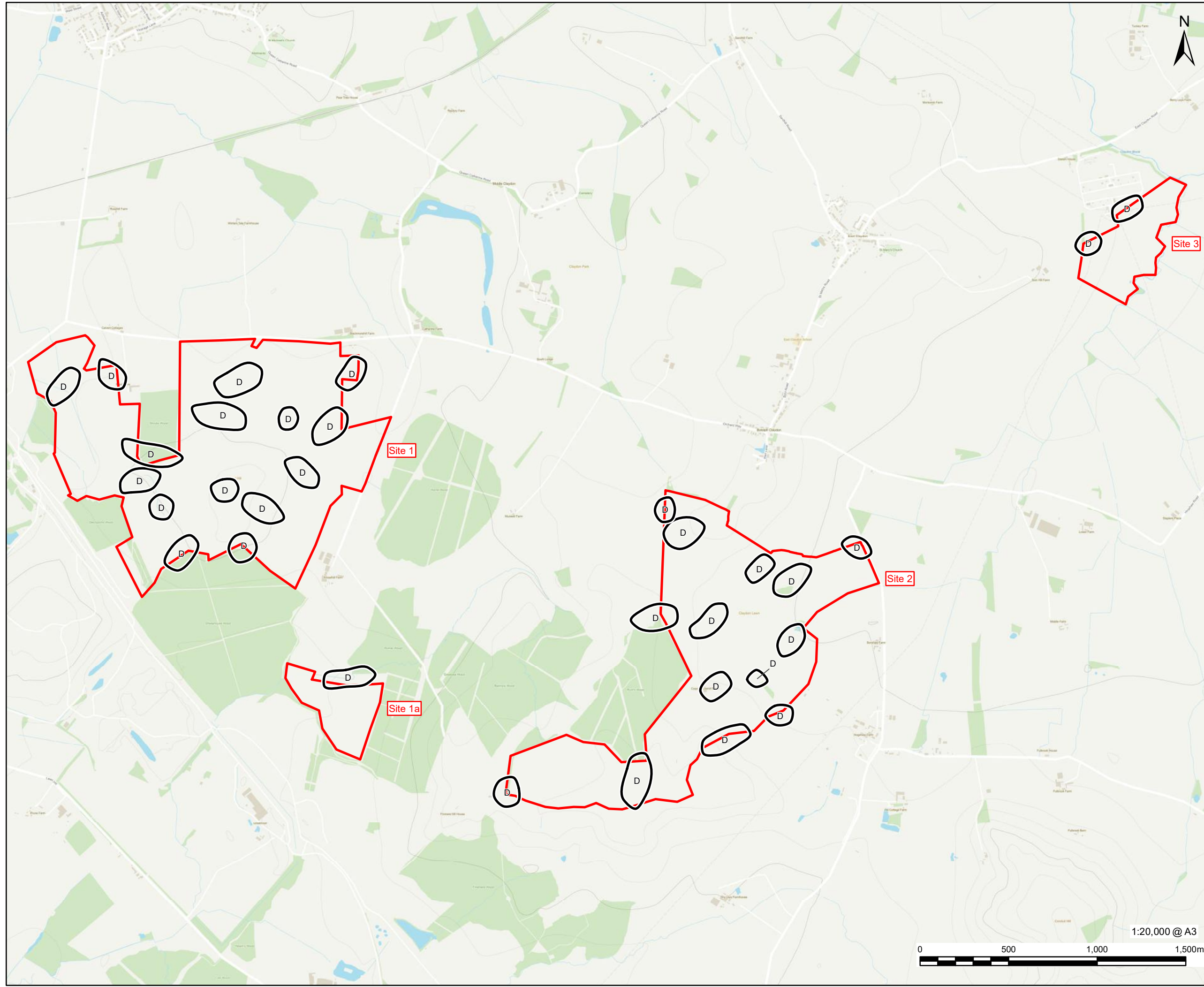


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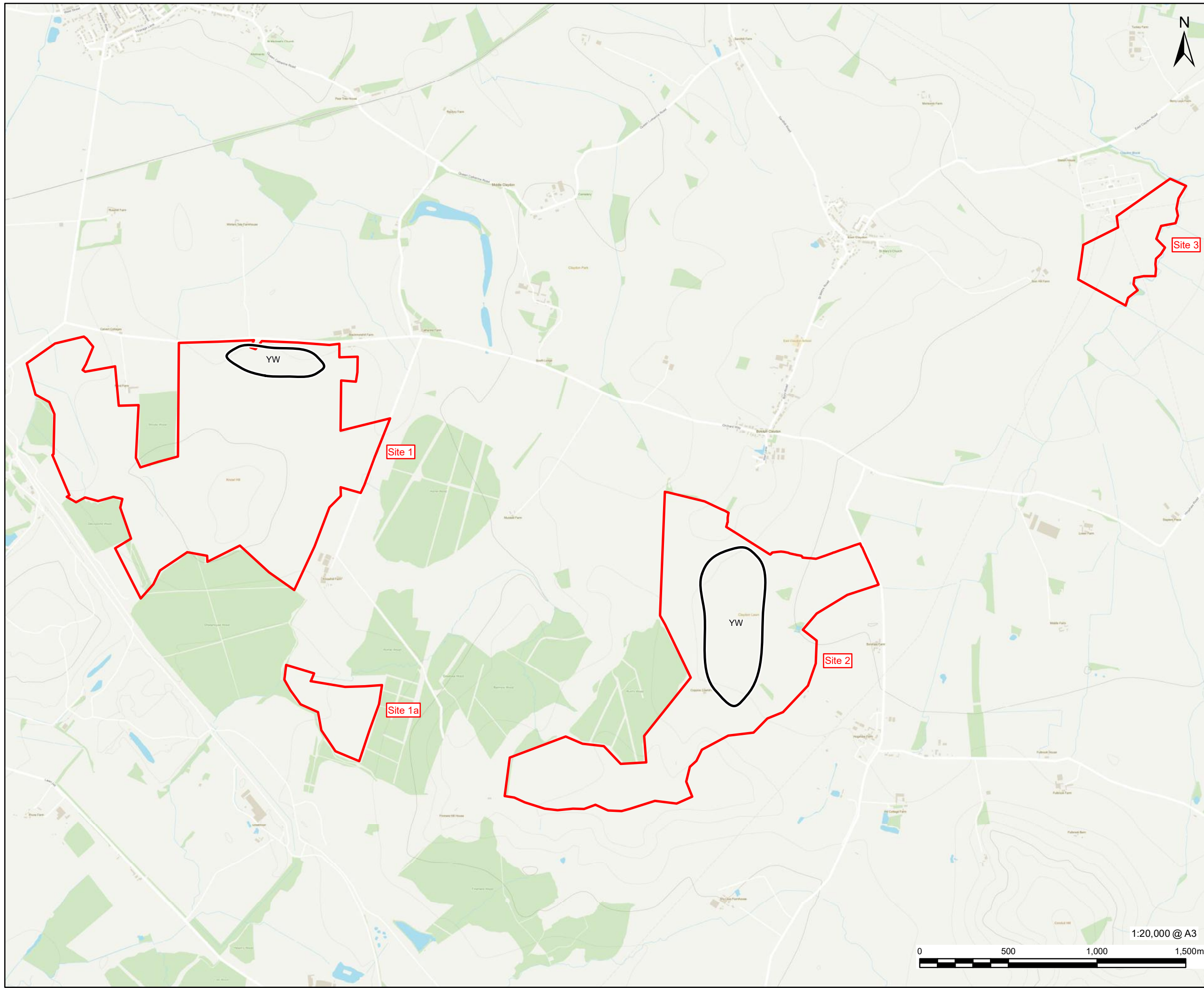




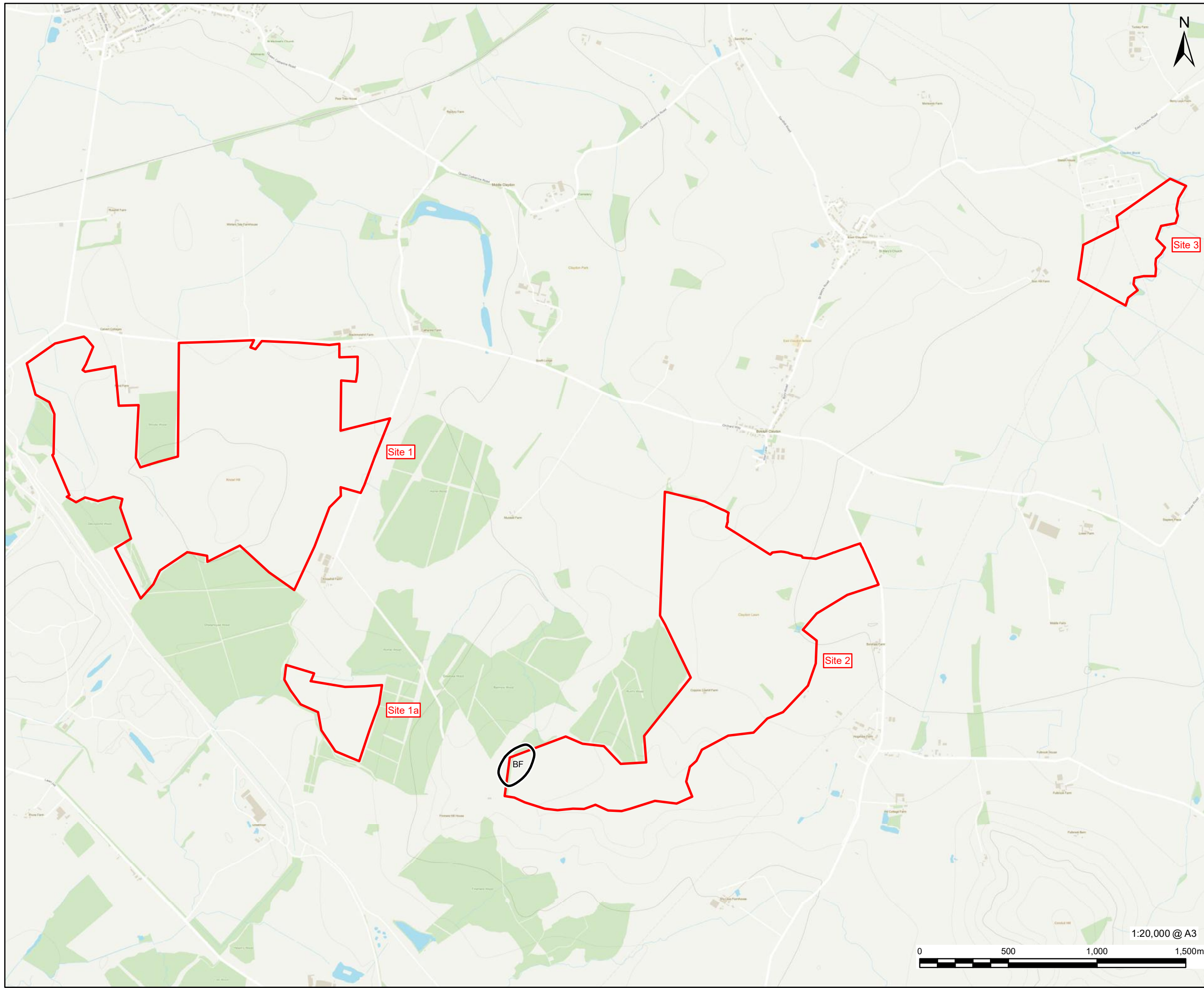
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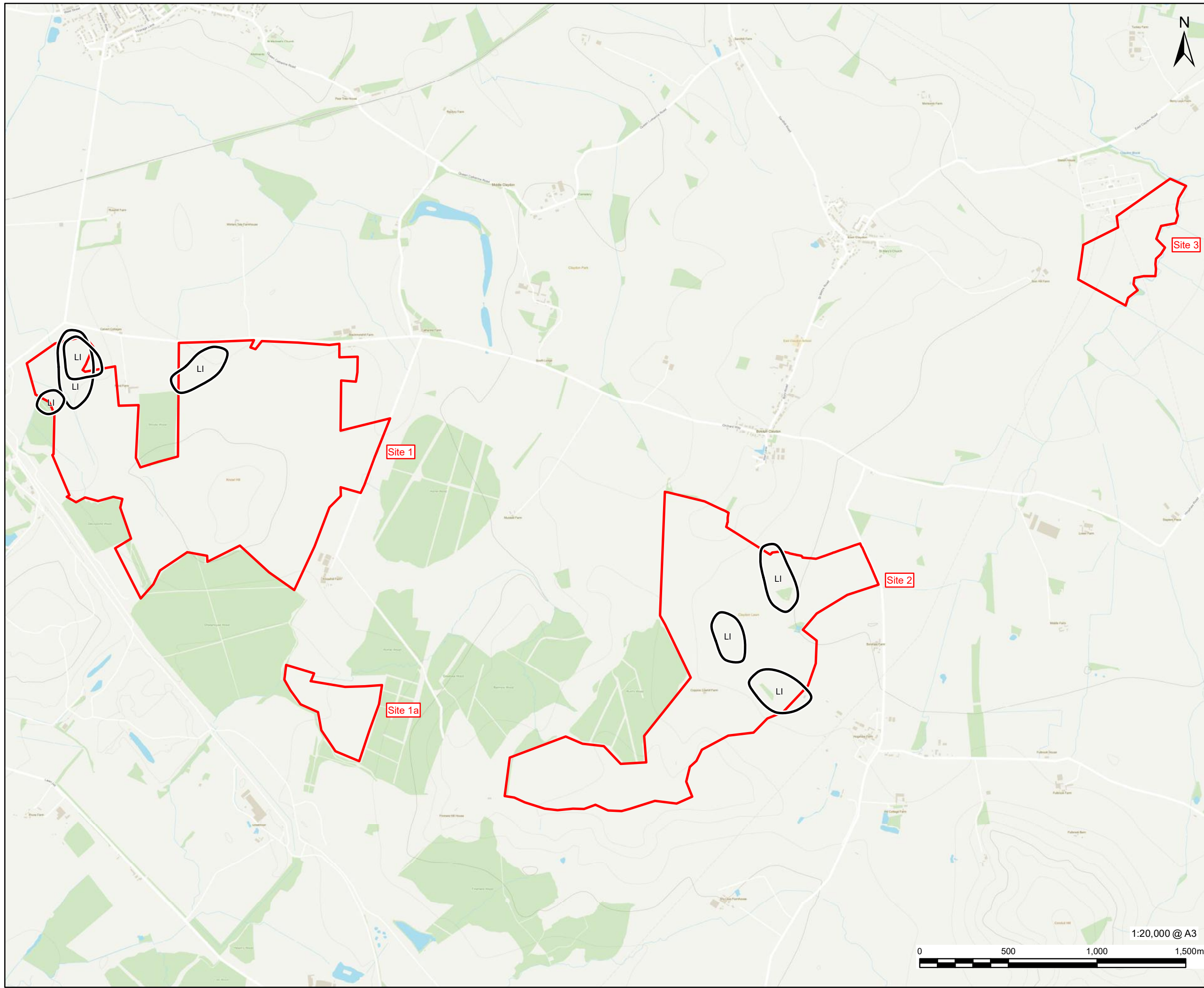


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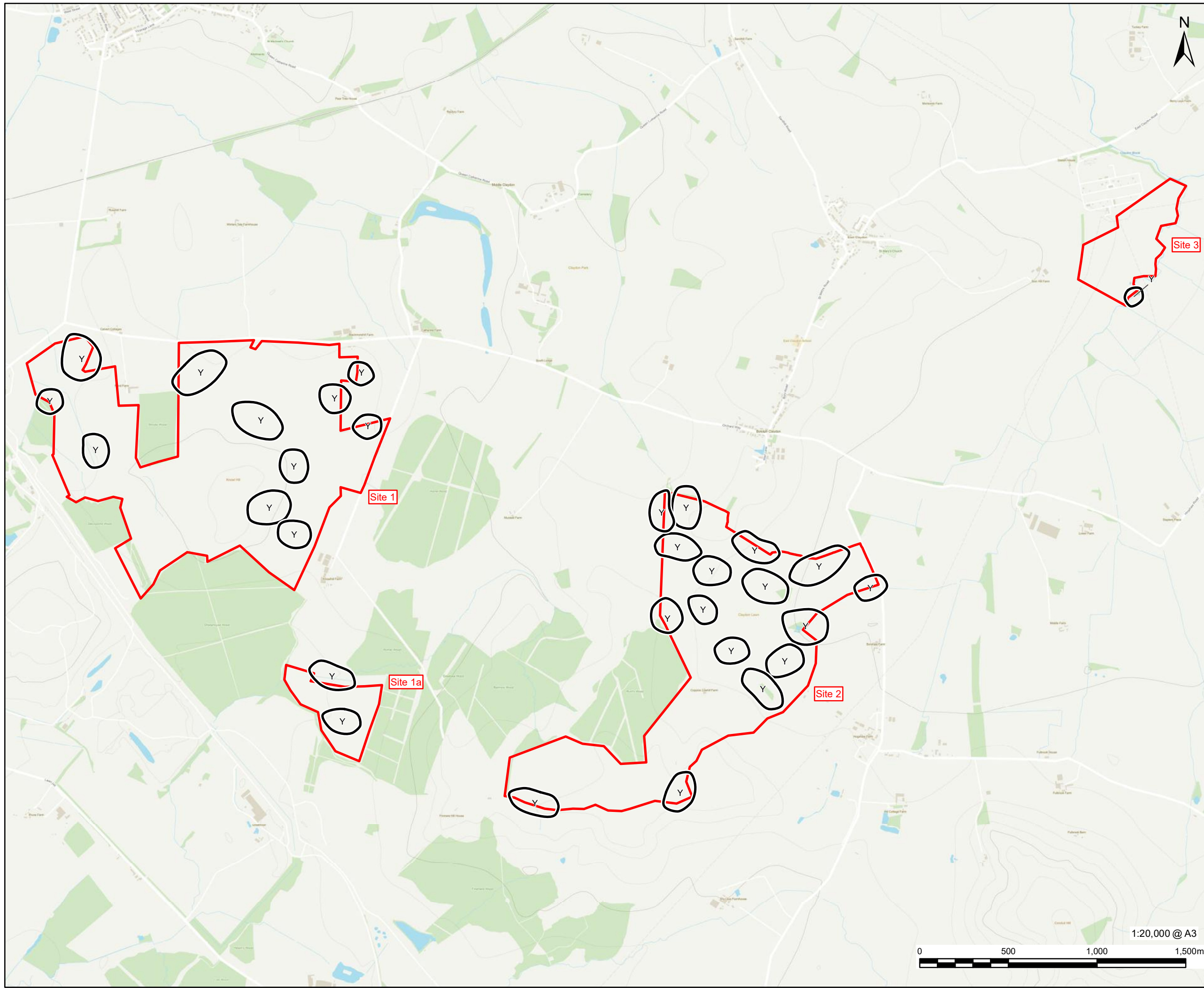


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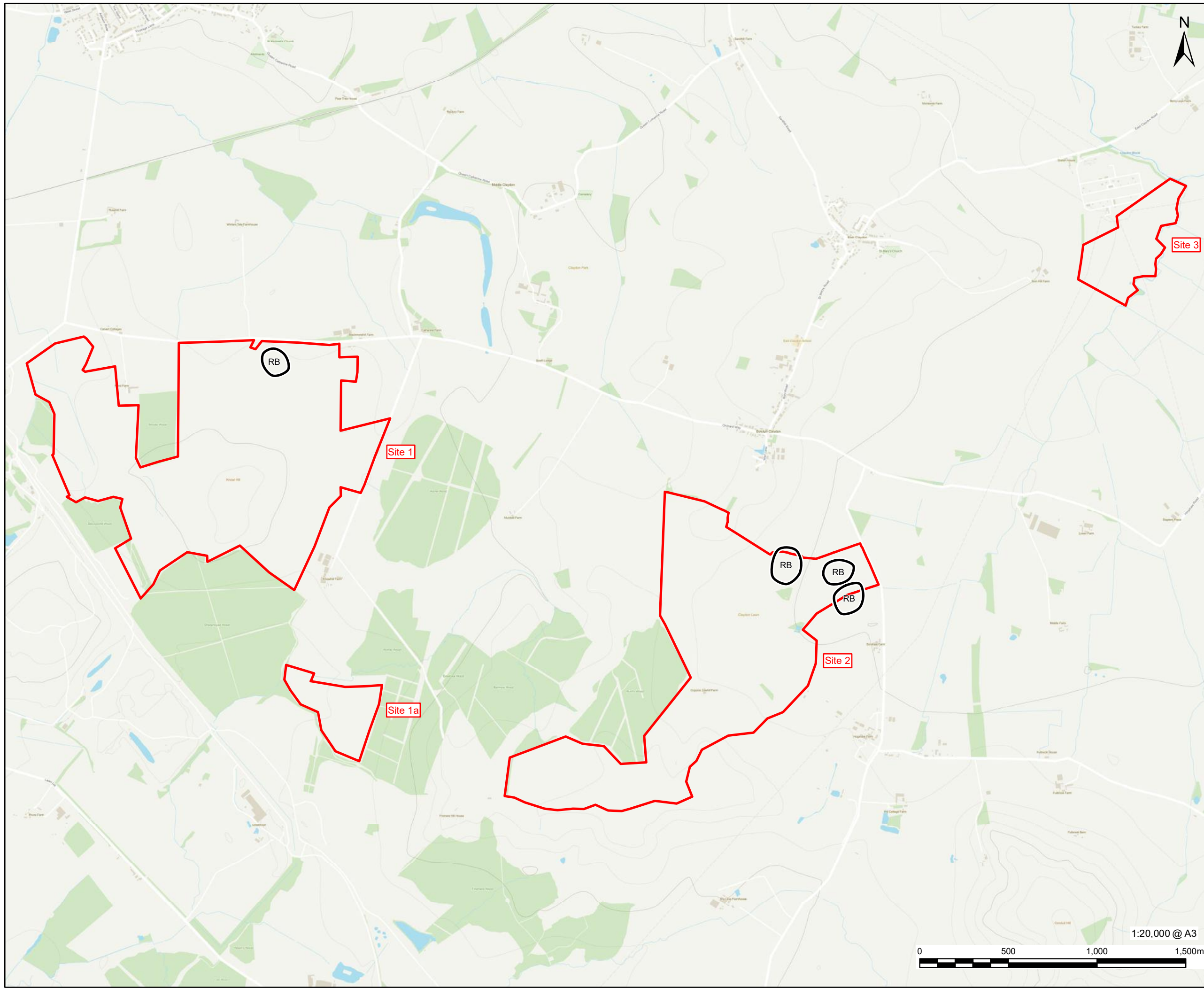
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Appendix B: Bird records received through the data search

<i>Scientific name</i>	<i>Common (English) Name</i>
<i>Aix galericulata</i>	Mandarin Duck
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Accipiter gentilis</i>	Goshawk
<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Alauda arvensis</i>	Skylark
<i>Alcedo atthis</i>	Kingfisher
<i>Anas acuta</i>	Pintail
<i>Anas crecca</i>	Teal
<i>Anas platyrhynchos</i>	Mallard
<i>Anser albifrons</i>	White-fronted Goose
<i>Anser answer</i>	Greylag Goose
<i>Anthus pratensis</i>	Meadow Pipit
<i>Anthus trivialis</i>	Tree Pipit
<i>Apus apus</i>	Swift
<i>Asio flammeus</i>	Short-eared Owl
<i>Aythya farina</i>	Pochard
<i>Aythya marila</i>	Scaup
<i>Botaurus stellaris</i>	Bittern
<i>Branta bernicla</i>	Brent Goose
<i>Branta canadensis</i>	Canada Goose
<i>Branta leucopsis</i>	Barnacle Goose
<i>Bucephala clangula</i>	Goldeneye
<i>Calidris alba</i>	Sanderling
<i>Calidris alpina</i>	Dunlin
<i>Calidris pugnax</i>	Ruff
<i>Cettia cetti</i>	Cetti's Warbler
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius hiaticula</i>	Ringed Plover
<i>Chlidonias niger</i>	Black Tern
<i>Chroicocephalus ridibundus</i>	Black-headed Gull
<i>Circus aeruginosus</i>	Marsh Harrier
<i>Circus cyaneus</i>	Hen Harrier
<i>Coccothraustes coccothraustes</i>	Hawfinch
<i>Columba oenas</i>	Stock Dove
<i>Coturnix coturnix</i>	Quail

<i>Cuculus canorus</i>	Cuckoo
<i>Cygnus cygnus</i>	Whooper Swan
<i>Cygnus olor</i>	Mute Swan
<i>Delichon urbicum</i>	House Martin
<i>Dryobates minor</i>	Lesser Spotted Woodpecker
<i>Emberiza citrinella</i>	Yellowhammer
<i>Emberiza schoeniclus</i>	Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco Subbuteo</i>	Hobby
<i>Falco tinnunculus</i>	Kestrel
<i>Ficedula hypoleuca</i>	Pied Flycatcher
<i>Fringilla montifringilla</i>	Brambling
<i>Gallinago gallinago</i>	Snipe
<i>Gavia immer</i>	Great Northern Diver
<i>Haematopus ostralegus</i>	Oystercatcher
<i>Hydrobates pelagicus</i>	Storm Petrel
<i>Hydrocoloeus minutus</i>	Little Gull
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull
<i>Jynx torquilla</i>	Wryneck
<i>Larus argentatus</i>	Herring Gull
<i>Larus cachinnans</i>	Caspian Gull
<i>Larus canus</i>	Common Gull
<i>Larus fuscus</i>	Lesser Black-backed Gull
<i>Larus glaucoides</i>	Iceland Gull
<i>Larus hyperboreus</i>	Glaucous Gull
<i>Larus marinus</i>	Great Black-backed Gull
<i>Larus michahellis</i>	Yellow-legged Gull
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Limosa limosa</i>	Black-tailed Godwit
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Luscinia megarhynchos</i>	Nightingale
<i>Mareca penelope</i>	Wigeon
<i>Mareca strepera</i>	Gadwall
<i>Melanitta nigra</i>	Common Scoter
<i>Milvus milvus</i>	Red Kite
<i>Morus bassanus</i>	Gannet
<i>Motacilla cinerea</i>	Grey Wagtail
<i>Motacilla flava</i>	Yellow Wagtail

<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Netta rufina</i>	Red-crested Pochard
<i>Numenius arquata</i>	Curlew
<i>Numenius phaeopus</i>	Whimbrel
<i>Nycticorax nycticorax</i>	Night-heron
<i>Oceanodroma leucorhoa</i>	Leach's Petrel
<i>Pandion haliaetus</i>	Osprey
<i>Panurus biarmicus</i>	Bearded Tit
<i>Passer domesticus</i>	House Sparrow
<i>Passer montanus</i>	Tree Sparrow
<i>Perdix perdix</i>	Grey Partridge
<i>Phoenicurus phoenicurus</i>	Redstart
<i>Phylloscopus trochilus</i>	Willow Warbler
<i>Pluvialis squatarola</i>	Grey Plover
<i>Podiceps auritus</i>	Slavonian Grebe
<i>Podiceps grisegena</i>	Red-necked Grebe
<i>Podiceps nigricollis</i>	Black-necked Grebe
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Bullfinch
<i>Regulus ignicapilla</i>	Firecrest
<i>Rissa tridactyla</i>	Kittiwake
<i>Saxicola rubetra</i>	Whinchat
<i>Scolopax rusticola</i>	Woodcock
<i>Spatula clypeata</i>	Shoveler
<i>Spatula querquedula</i>	Garganey
<i>Sterna hirundo</i>	Common Tern
<i>Sterna paradisaea</i>	Arctic Tern
<i>Streptopelia turtur</i>	Turtle Dove
<i>Strix aluco</i>	Tawny Owl
<i>Sturnus vulgaris</i>	Starling
<i>Tadorna ferruginea</i>	Ruddy Shelduck
<i>Tadorna tadorna</i>	Shelduck
<i>Thalasseus sandvicensis</i>	Sandwich Tern
<i>Tringa erythropus</i>	Spotted Redshank
<i>Tringa glareola</i>	Wood Sandpiper
<i>Tringa nebularia</i>	Greenshank
<i>Tringa ochropus</i>	Green Sandpiper
<i>Tringa totanus</i>	Redshank

Turdus iliacus

Turdus philomelos

Turdus pilaris

Turdus torquatus

Turdus viscivorus

Tyto alba

Upupa epops

Vanellus vanellus

Redwing

Song Thrush

Fieldfare

Ring Ouzel

Mistle Thrush

Barn Owl

Hoopoe

Lapwing

Appendix F-4

Great Crested Newt eDNA Survey May 2022 and April 2023

Rosefield Solar Farm

Great Crested Newt Habitat Suitability Index and eDNA Report

Rosefield EnergyFarm Limited

August 2022

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
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1. Introduction

1.1 Introduction

1.1.1 AECOM was commissioned by Rosefield EnergyFarm Limited to undertake ecological surveys to determine the presence or absence of great crested newt *Triturus cristatus* at the proposed Rosefield Solar Farm (the Site).

1.1.2 The surveys undertaken included:

- a desk study to identify all water bodies within 500m of the Site (the survey area) and a review of Ordnance Survey (OS) mapping to determine whether water bodies outside of the Site (but within the survey area) could be scoped in or scoped out of further assessment;
- a Habitat Suitability Index (HSI) survey; and
- an eDNA survey on accessible water bodies, to determine whether Great Crested Newt were present, or likely absent.

1.1.3 The scope of field surveys was restricted to water bodies within ownership of the Claydon Estate (the landowner). No access to any land outside of the ownership of the Claydon Estate was provided.

1.2 The Scheme

1.2.1 The Rosefield Solar Farm (see **Figure 1**, Annex A) is a proposed new solar energy farm, co-located with battery storage (the Scheme). The proposals include grid infrastructure to connect the solar farm to the National Grid. The Scheme would export or import up to 500MW of electricity to and from the National Grid. The proposed generation capacity of the Scheme means it is a Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.3 Site description

1.3.1 The Scheme is located in three main sites (referred to hereafter as Site 1 (with a sub-site '1a'), Site 2 and Site 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale. The Site is in the administrative area of Buckinghamshire Council. The location of the Site is presented in **Figure 1** (Annex A).

1.3.2 The Site is located at Ordnance Survey national grid reference SP7024 (Knowl Hill).

1.3.3 Site 1 (see **Figure 1**, Annex A) makes up the largest area of the Scheme, to the east of Calvert, and consists predominately of arable fields with livestock pasture and woodland blocks. A smaller section, referred to as Site 1a, lies to the immediate south of Site 1. Site 2 contains predominantly arable fields surrounded by woodland blocks. Site 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Sub-station. The Sites are surrounded by arable, grassland and woodland.

1.4 Scope of the report

1.4.1 The objective of the surveys, reported in this document, is:

- to identify the presence or absence of great crested newt within the survey area;
- to identify water bodies that will, or may, require further survey; and
- to determine whether there are any likely impacts from the Scheme on great crested newt.

1.4.2 This report includes the following information:

- relevant legislation and policy;
- methodologies for desk and field-based assessments undertaken in 2021 and 2022;
- limitations to the surveys undertaken and any assumptions made as a result of incomplete data;
- survey results; and
- conclusions and recommendations.

1.4.3 This report is intended for the use of Rosefield EnergyFarm Limited, for future inclusion in detailed ecological assessments that may follow.

2. Great Crested Newt Ecology

2.1 Introduction

- 2.1.1 Great crested newt is one of seven species of amphibian native to Britain and in common with other UK amphibians, they spend the majority of their lives on land, returning to standing water (water bodies and ditches) in the spring in order to breed.

2.2 Effect of temperature on activity

- 2.2.1 Great crested newts are ectothermic, meaning that they regulate their temperature through exchange of heat with the external environment. Gaseous exchange (oxygen/carbon dioxide) is achieved largely by absorption through their permeable skins, which must be moist for this purpose. Behaviour and activity are therefore strongly linked to external environmental conditions, especially daily and seasonal cycles. Great crested newts are mainly active at night (usually when temperatures exceed 5°C and following recent rainfall). With the onset of winter frosts, great crested newts hibernate. Activity recommences when the frosts subside (which may be as early as January / February), with adults migrating to breeding water bodies. Peak breeding activity is usually between mid-March and mid-May.

2.3 Reproduction

- 2.3.1 Breeding takes place within water bodies with males performing a courtship 'dance' in order to attract and encourage females to take up a spermatophore (a packet containing sperm). Females deposit eggs (up to 200 per season) on the submerged leaves of aquatic broadleaved plants. Each egg is individually sealed for protection from predators within a folded leaf. Adults begin to leave the water bodies around May but may return in order to feed.
- 2.3.2 Larvae hatch after three weeks and feed on small aquatic invertebrates and the larvae/eggs of other amphibians for approximately three months. They metamorphose into land-adapted juveniles called efts and begin to emerge from their water bodies around August.

2.4 Habitat requirements

- 2.4.1 During their terrestrial phase, great crested newts require a complex habitat structure in order to provide both food and shelter. These are most commonly provided by broadleaved woodland, rough or tussocky grassland and scrub habitats. They also require a secure area in which to hibernate. Hibernacula generally need to provide a stable temperature, be free from frost and provide protection from flooding and predation (a hibernaculum is a shelter occupied during the winter by a dormant animal). These requirements are commonly met by log/rubble piles, underground crevices or mammal burrows.
- 2.4.2 For breeding, great crested newts require water bodies that provide suitable protection and food for their developing larvae. Generally, such water bodies should be of relatively good water quality so as to provide a diverse range of invertebrate prey. Unshaded water bodies tend to provide more of the required broadleaf aquatic vegetation, upon which great crested newt eggs can be laid. Water bodies with large fish populations (which can prey on newts) or heavy grazing pressure from waterfowl (which can prey on newts and reduce water quality and egg laying habitat) tend not to support great crested newt. Connectivity between water bodies and good quality terrestrial habitat tend to favour large, viable, populations of great crested newt. In rural landscapes in Britain, such connectivity is often provided by the hedgerow network.

2.5 Great crested newt dispersal

- 2.5.1 Great crested newts are thought to commonly move between water bodies up to a distance of 250m from each other (Ref 7-1), although there are studies showing great crested newt

travelling much further than this (Ref 7-2). Great crested newts may be impacted by a range of factors, including the type and quality of habitat surrounding a breeding water body, the availability of hibernation sites and the presence or absence of barriers to dispersal (e.g. large and busy roads with no features that great crested newts could move through).

3. Legislative and Policy Framework

3.1 Relevant legislative context

3.1.1 All stages of the great crested newt life cycle as well as their habitat are fully protected under Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 7-3). Great crested newt is listed on Schedule 5 of the Wildlife & Countryside Act 1981 (Ref 7-4), which affords it protection under Section 9, as amended by the Countryside Rights of Way Act (2000) (Ref 7-5). It is also listed on Annex II and VI of the EC Habitats Directive (Ref 7-6), is included as a Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 7-7) and is a UK Post-2010 Biodiversity Framework (Ref 7-8) species listed on the UK Biodiversity Action Plan. In combination, this makes it an offence to:

- deliberately capture, injure or kill a great crested newt;
- deliberately take or destroy their eggs;
- deliberately, intentionally or recklessly disturb an individual; or
- damage, destroy or obstruct access to any structure which a great crested newt used for shelter or protection.

3.1.2 The protection includes both the breeding water body itself and the terrestrial habitat used for foraging and hibernation, which may be distant from the water body.

3.2 European protected species licencing

3.2.1 Where great crested newt habitat, including their breeding sites and resting places, is present on a site and a development has the potential to cause one or more offences under The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 7-3), a European Protected Species Licence (EPSL) is required from Natural England to allow the development to proceed. This licence allows the development to proceed with exemption from offences, provided works are undertaken with strict accordance of the terms of the licence. A licence cannot, however, be obtained to provide protection against offences under the Wildlife and Countryside Act, 1981 (as amended) (Ref 7-4).

3.2.2 In determining whether to grant a licence, Natural England must apply the requirements of Regulation 55 of the Regulations (Ref 7-3), these being:

- Regulation 55(2) states: “*subject to the provisions of this regulation, the relevant licensing body may grant a licence for the purposes specified in paragraph 2*”. The relevant section of paragraph 2 being:
 - (e) “*a licence can be granted for the purposes of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment*”.
- Regulation 55(9) states: “*the relevant licensing body must not grant a licence under the regulation unless it is satisfied -*
 - (a) “*that there is no satisfactory alternative*”; and
 - (b) “*that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*”

- 3.2.3 A determining authority must also apply these tests when determining a planning/DCO application, where a proposed development is likely to cause an offence under The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 7-3).
- 3.2.4 In order for a European Protected Species Licence to be approved by Natural England for works with great crested newt, it must be demonstrated that the proposed development will minimise any potential impacts upon great crested newt and will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 3.2.5 Offences can be avoided through the implementation of appropriate mitigation that will minimise the potential for any offences to be committed. Mitigation can include the undertaking of vegetation clearance works at an appropriate time of the year and completing works in accordance with methods that will minimise or avoid potential disturbance or destruction of habitats. In such circumstances it is sensible for works to be completed using Reasonable Avoidance Measures (RAMs).

3.3 Priority species

- 3.3.1 The NERC list of Species of Principal Importance (Ref 7-7) is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act (2006); under Section 40 every public authority (e.g. a local authority or local planning authority) must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.
- 3.3.2 In addition, with regard to those species on the list of Species of Principal Importance listed under Section 41, the Secretary of State must:
- “(a) *take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or*
 - (b) *promote the taking by others of such steps.*”
- 3.3.3 The UK Biodiversity Action Plan (UKBAP) was launched in 1994 and established a framework and criteria for identifying species and habitat types of conservation concern. From this list, action plans for priority habitats and species of conservation concern were published and have subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 7-8). The UK Post 2010 Development Framework is relevant in the context of Section 40 of the NERC Act 2006, meaning that Priority Species and Habitats are material considerations in planning. These habitats and species are identified as those of conservation concern due to their rarity or a declining population trend.
- 3.3.4 Great crested newt was added to the UK Biodiversity Action Plan (UKBAP) as a priority species in September 2007 and subsequently was included as a Species of Principal Importance in England under Section 41 of the NERC Act (2006) meaning that they are of material consideration in planning.

3.4 Local biodiversity action plan

- 3.4.1 The Scheme is located in Buckinghamshire. The ‘*Forward to 2030 Buckinghamshire and Milton Keynes Biodiversity Action Plan*’ (BMKBAP) (Ref 7-9), sets out measures that will help to reverse the decline of biodiversity within the area, although focus of the work is primarily on habitats. However, the BAP lists UK Priority species that have been recorded within the county, but does not have any species-specific action plans for Buckinghamshire.

4. Methods

4.1.1 This section describes the survey methods used to determine the likelihood of great crested newt presence or absence within the survey area, which included:

- a desk study;
- a Habitat Suitability Index (HSI) survey; and
- eDNA surveys.

4.2 Desk study

4.2.1 A desk study was undertaken as part of the Preliminary Ecological Appraisal (PEA) in November 2021. This desk study obtained records of great crested newt within the preceding ten years and within a 2km radius of the Site from Buckinghamshire and Milton Keynes Environmental Records Centre (BMKERC).

4.2.2 Furthermore, aerial photographs and OS maps were reviewed as part of the PEA to identify water bodies of potential value to great crested newt within 500m of the Site that were not separated by major barriers to great crested newt dispersal (such as main roads and large rivers). The review of aerial photography and mapping included identifying any key routes of potential habitat connectivity to the Site from outside water bodies (e.g. ditches, hedgerows) and significant barriers to great crested newt dispersal (e.g. main roads or rivers).

4.3 Field survey

Habitat Suitability Index (HSI)

4.3.1 The Habitat Suitability Index (HSI) is a measure of habitat suitability, developed by Oldham *et al.* (2000) (Ref 7-10) for evaluating the suitability of water bodies as habitat for great crested newt. Ten habitat features of the water body are assessed in the field and from these data a suitability index is calculated (**Table 4-1**).

4.3.2 A value is recorded for each parameter and combined to determine an index of breeding suitability for great crested newt (**Table 4-1**). The HSI survey was undertaken in March 2022.

Table 4-1: Great crested newt suitability indices and description

Suitability Indices	Suitability Indices Title	Suitability indices Description
(SI1)	Geographic location	Different areas of the UK represent different indices scores
(SI2)	Water body area	The optimum water body size is between 500 and 750m ²
(SI3)	Water body permanence	The optimal frequency of drying is one year per decade
(SI4)	Water quality	The presence of indicator organisms (the same that are used to assess running water) is the water quality indicator
(SI5)	Water body shading	Great crested newt occurrence is significantly reduced above a threshold of 75% shade
(SI6)	Impact of waterfowl	Waterfowl impact on water body vegetation and water turbidity is a negative indicator for great crested newt

Suitability Indices	Suitability Indices Title	Suitability indices Description
(SI7)	Occurrence of fish	The effect of fish presence is related to the species. Some species can have negative impacts and great crested newt hardly ever coexist with larger predatory fish species. Other species (depending on conditions) are not detrimental.
(SI8)	Water body density	Water body densities above four water bodies/km ² are taken as optimal.
(SI9)	Terrestrial habitat	In general, scrub, unimproved grassland, woodland (deciduous and coniferous) and gardens are regarded as being suitable terrestrial habitat, unlike improved pasture, arable and hardstanding. The SI9 is the combination between positive factors (suitable habitat) and negative factors (<i>e.g.</i> inherent in barriers to movement such as roads). The surrounding habitat is scored according to the extent of high-quality terrestrial newt habitat.
(SI10)	Macrophyte content	The highest occurrence of great crested newt is found in water bodies with emergent vegetation cover between 25% and 50% and submerged vegetation between 50% and 75%.

4.3.3 The HSI of a water body is a numerical index which scores water bodies on a scale of between 0 and 1, using a geometric mean of the ten suitability indices, with the following suitability categories for the results:

- <0.5: poor likelihood of presence;
- 0.5 – 0.59: below average likelihood of presence;
- 0.6 – 0.69: average likelihood of presence;
- 0.7 – 0.79: good likelihood of presence; and
- >0.8: excellent likelihood of presence.

4.3.4 Any water body with suitability to support great crested newt and within 250m of the Scheme, based on an HSI score of below average or greater, was then surveyed using environmental DNA (eDNA) analysis, to determine great crested newt presence or likely absence.

eDNA laboratory analysis

4.3.5 Water samples were taken in mid-May 2022 from suitable water bodies on the Site and were sent off for eDNA analysis to assess the presence or likely absence of great crested newt DNA. This survey methodology is approved by Natural England in their standing advice and it provides evidence of presence or likely absence of great crested newt to assess development projects (Ref 7-12).

4.3.6 Field surveys strictly followed the protocol set out in the WC1067 Technical Advice Note (Ref 7-11) and to prevent contamination of the samples as per the following:

- gloves were worn at all times during the sampling process, and gloves were replaced between sample collection from the water body and pipetting into the sterile sub-sample tubes; and
- samples were collected without entering the water, *i.e.* the surveyor stood only on the water body bank or water body edges. This prevented disturbance of the substrate to limit cross-contamination.

4.3.7 The field sampling protocol consisted of the following steps for each surveyed water body:

- the location of sub-samples were spaced as evenly as possible around the margin of the water body or watercourse. Sub-samples generally targeted areas with potential egg laying substrate (e.g. vegetation) and open water areas which newts may be using for displaying. Prior to sampling, the water column was mixed by gently using a ladle to stir through the entire water column, whilst avoiding disturbing the sediment on the bed of the water body. Sampling of very shallow water (less than 5-10cm deep) was avoided where possible;
- a new pair of gloves was put on to keep the next stage as uncontaminated as possible;
- using a clear plastic pipette, approximately 15mL of water were taken from the bag and pipetted into six sterile tubes containing 35mL of ethanol to preserve the eDNA sample (i.e. the tube was filled to the 50mL mark)
- the tube was shaken vigorously for ten seconds to mix the sample and preservative. This is essential to prevent DNA degradation and was also repeated for each of the six conical tubes. Before taking each sample, the water in the bag was shaken to homogenise the sample, as DNA material constantly sinks to the bottom; and
- the box of preserved sub-samples was kept in a fridge and then later returned to ambient temperature in the laboratory for analysis.

4.3.8 Laboratory analysis was consistent with the methods described in Appendix 5 of the WC1067 Technical Advice Note (Ref 7-11), including control analysis for inhibition and degradation.

4.3.9 eDNA kits were procured from Surescreen Scientifics (hereafter referred to as Surescreen) and on collection of samples, they were then sent back to Surescreen to be analysed in their laboratory.

4.4 Assumptions and limitations

Desk study

4.4.1 The aim of a desk study was to help characterise the baseline context of the Scheme and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for great crested newt does not necessarily mean that this species does not occur in the study area. Likewise, the presence of records of great crested newt does not automatically mean that these still occurred within the area of interest or were relevant in the context of the Scheme.

Field Survey

HSI survey

4.4.2 There was no access to four water bodies (13, 29, 35, 74) that were off-site and two water bodies (17 and 21) that were on-site (the latter due to HS2 development works within the Site boundary). Water body 74 can be scoped out of further assessment (see Section 5.1.3), however, access should be sought in April 2023 to undertake surveys of water bodies 13, 29, 35, 17 and 21.

4.4.3 During the HSI survey in March 2022, two water bodies (12 and 60) were dry. Therefore, a full HSI assessment could not be undertaken at these locations as a number of suitability indices (e.g. water quality) could not be determined. Whilst these dry locations are less likely to support great crested newt (on the assumption that these locations rarely or never hold water), ponds that dry annually does not automatically mean that they are unsuitable for great crested newt. Furthermore, great crested newt is present in the wider area. Therefore, it is recommended that these locations are visited in April 2023 to check if each water body holds water and then an updated HSI and further surveys undertaken at that time, as appropriate. Should these locations not hold water in April 2023, then these areas can be scoped out of survey and determined as not being suitable to support great crested newt.

- 4.4.4 There is a positive correlation between HSI scores and the numbers of great crested newts observed in water bodies. In general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of great crested newts in any particular water body. The HSI for great crested newts is a measure of habitat suitability and is not a substitute for aquatic amphibian surveys. In general, water bodies with high HSI scores are more likely to support great crested newts than those with low HSI scores. However, the system is not sufficiently precise to allow the conclusion that any particular water body with a high suitability score will support great crested newts, or that any waterbody with a low suitability score will not do so.

eDNA survey

- 4.4.5 At the time of eDNA survey in May 2022, two water bodies (38 and 66) had livestock present in surrounding fields and, due to health and safety protocol, these fields were not entered.
- 4.4.6 One water body (42) was surrounded by thick hedgerows and barbed wire fence and was not accessible for an eDNA survey, although a HSI survey could be undertaken. Given the presence of great crested newt in surrounding water bodies, it is assumed that this pond supports great crested newt.
- 4.4.7 Water body 34, although 'excellent' on the HSI score in March 2022, is an agricultural reservoir that is drained and, at the time of eDNA survey in May 2022, was full of digestate (fertiliser). The HSI was therefore re-categorised in May 2022 and scored 'below average' when changing the water quality to bad and changing the permanence. Therefore, this water body can be scoped out of further assessment as presence of great crested newt is unlikely due to the digestate and agricultural use.
- 4.4.8 Water body 76 was not subject to an eDNA survey as this was omitted in error. This water body will require, as a minimum, an eDNA survey in April 2023.
- 4.4.9 A small number of water bodies (22, 25, 26, 37) were dry at the time of eDNA survey in May 2022 and ponds that dry annually does not automatically mean that they are unsuitable for great crested newt. Therefore, they would require further survey in April 2023 to check if each water body holds water and then an updated HSI and further surveys undertaken at that time, as appropriate.

5. Results

5.1 Desk study

- 5.1.1 Several records of great crested newt were returned from the data search, within 2km of the Site and from within the last ten years (Ref 7-13). The majority of records were from within the HS2 corridor that runs to the west of the Site.
- 5.1.2 From the desk study, using maps and aerial photography, 84 water bodies were identified within the survey area (as presented in **Figure 1** Annex A).
- 5.1.3 The desk study scoped out the need for HSI and/ or eDNA surveys on 39 water bodies for the following reasons:
- distance (>250m) and/ or barriers to dispersal – water bodies 1, 2, 3, 4, 5, 7, 15, 19, 20, 23, 28, 33, 36, 41, 43, 44, 46, 47, 48, 50, 51, 52, 56, 57, 58, 68, 70, 72, 73, 77, 78, 79, 81, 84; or
 - barriers to dispersal with limited suitable connecting habitat between these water bodies and the Site – water bodies 11, 14, 40, 69, 74.

5.2 Field survey

- 5.2.1 A breakdown of the surveys undertaken within the survey area and the rationale for these are presented in **Table 5-2**.

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- 5.2.2 Forty-one water bodies identified within the Site, or where access was permitted within the survey area (see **Figure 1**) were subject to surveys to initially check that each water body held water and then a HSI survey where required, was undertaken between 3rd and 4th March 2022. The results of the HSI surveys are presented in **Table 5-1**.

Table 5-1: HSI results

HSI Score	Water body reference (see Figure 1)
Excellent	34, 62, 75
Good	5, 10, 49, 51, 52
Average	9, 11, 32, 37, 38, 56, 61, 63, 76
Below Average	22, 24, 25, 26, 42, 47, 55
Poor	6, 8, 23, 27, 31, 53, 54, 59, 64, 65, 67, 71, 72, 73, 80, 82, 83

- 5.2.3 Two water bodies (12 and 60) were dry in March 2022 and a full HSI assessment could not be undertaken (see Section 4.4.3).
- 5.2.4 Furthermore, five water bodies (16, 18, 30, 39 and 45) are presumed to no longer exist as no evidence of a water body was located. These water bodies were scoped out of requiring further assessment.
- 5.2.5 The results of the HSI survey are presented in **Table A-1Annex B**.

eDNA surveys

- 5.2.6 Of the 41 water bodies that held water in March 2022 and were subject to HSI surveys (see **Table 5-1**), eDNA surveys were undertaken on nine water bodies (9, 10, 24, 32, 49, 61, 62, 63, 75) in mid-May 2022 that were scoped in for further assessment (see Section 5.2.2) or where the HSI score was greater than 'poor' (see Section 4.3.4). Positive eDNA samples were returned from all nine water bodies.
- 5.2.7 The results of the eDNA laboratory analysis are presented in **Table 5-2** and included in **Annex C**.

Table 5-2: Summary of great crested newt assessment undertaken for all water bodies

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
1	439m	1	No	No	No	No access. Scoped out during desk study. Large water body with barriers to Great Crested Newt dispersal (HS2 construction) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
2	470m	1	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (HS2 construction) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
3	353m	1	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (HS2 construction) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
4	376m	2	No	No	No	Not surveyed, due to water body location within farm buildings, located adjacent to residential properties. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed farmland and surrounding agricultural activity) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
5	267m	2	Yes – Good	No	No	Good HSI score but scoped out of further assessment as water body is greater than 250m from the Scheme. Water bodies 61, 62 and 63 (all in close proximity to water body 5) were positive for great crested newt eDNA. However, any impacts from the Scheme on great crested newt, if present in water body 5, will not occur.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
6	Within the site	2	Yes - Poor	No	No	Poor HSI score, with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
7	413m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 400 m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
8	Within the site	3	Yes - Poor	No	No	Poor HSI score, with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
9	Within the site	1	Yes – Average	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
10	Within the site	1	Yes – Good	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
11	177m	1	Yes - Average	No	No	Average HSI score. However, scoped out of further assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
12	177m	2	No	No	Yes – if holding water in spring 2023	Water body dry at the time of survey (March 2022). However, given the presence of great crested newt in ponds 61, 62 and 63, as a precaution this water body should be checked in spring 2023 for water (and an HSI survey undertaken (and eDNA sample) taken as a minimum, if holding water).

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
13	133 m	1	No	No	Yes - if access permits	No access to water body due to HS2 works. If access permits, this water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
14	225 m	1	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (HS2 construction) between Scheme and this water body. Furthermore, water body nearly 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
15	298 m	1	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (HS2 construction) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on Great crested newt, if present, will not occur.
16	109 m	1	No	No	No	No obvious water body located and shallow water level in flowing ditch. Therefore unlikely to support great crested newt and any impacts from the Scheme on great crested newt, if present, would not occur.
17	Within the site	1	No	No	Yes – if access permits	No access due to HS2 works. If access permits, this water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
18	Within the site	1	No	No	No	No obvious water body located in March 2022 and presumed to no longer exist. Therefore scoped out of further assessment.
19	273 m	1	No	No	No	Water body surrounded by arable fields and no access into crop. Pond appeared dry from distant view using binoculars. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
						greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
20	469 m	1	No	No	No	Water body was dry at the time of survey and unlikely to support great crested newt. Scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
21	Within the site	1	No	No	Yes – if access permits	No access due to HS2 works. If access permits, this water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
22	Within the site	1	Yes – Below average	No	Yes – if holding water in spring 2023	The HSI score was 'below average' and at the time of eDNA survey in May 2022, this water body was dry. This water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
23	357 m	1	Yes – Poor	No	No	Poor HSI score. Furthermore, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
24	Within the site	1	Yes – Below average	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
25	Within the site	1	Yes – Below average	No	Yes – if holding water in spring 2023	The HSI score was 'below average' and at the time of eDNA survey in May 2022, this water body was dry. This water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
26	Within the site	1	Yes – Below average	No	Yes – if holding water in spring 2023	The HSI score was 'below average' and at the time of eDNA survey in May 2022, this water body was dry. This water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
27	Within the site	1	Yes - Poor	No	No	Poor HSI score, with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
28	384 m	1	No	No	No	No access. Scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
29	173 m	1a	No	No	Yes – if access permits	No access due to HS2 works. If access permits, this water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
30	Within the site	1a	No	No	No	No obvious water body located in March 2022 and presumed to no longer exist. Therefore scoped out of further assessment.
31	190 m	1	Yes – Poor	No	No	Poor HSI score. Furthermore, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
32	Within the site	1	Yes – Average	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
33	438 m	1	No	No	No	Flowing ditch found, no open area. Scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
34	5 m	1	Yes - Excellent	No	No	Whilst the HSI score for this water body was 'excellent', this is an agricultural reservoir that is annually drained and pumped, but at the time of survey contained 'digestate' which would render it unsuitable to support great crested newt.
35	120 m	1a	No	No	Yes – if access permits	No access due to HS2 works. If access permits, this water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
36	312 m	1a	No	No	No	No access. Scoped out of further assessment due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
37	Within the site	1	Yes – Average	No	Yes – if holding water in spring 2023	The HSI score was 'average' but at the time of eDNA survey in May 2022, this water body was dry. This water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
38	196m	1	Yes - Average	No	Yes – depending on cattle	At the time of eDNA survey in May 2022, livestock (cattle) were in the adjacent field and access was prevented from this water body on reasons of H&S. However, the landowner reported that this water body does support great crested newt.
39	Within the site	1a	No	No	No	No obvious water body located in March 2022 and presumed to no longer exist. Therefore scoped out of further assessment.
40	245 m	1	No	No	No	No obvious access route to water body. However, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body nearly 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
41	406 m	1a	No	No	No	No access. However, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
42	17 m	1	Yes – Below average	No	Potentially	Whilst a HSI survey could be undertaken, there was no access to the margins of the water body (water body is surrounded by a barbed wire fence and thick hedge) and therefore no eDNA survey could be undertaken. Owing to the presence of great crested newt in nearby ponds, it is assumed that great crested newt is present in this pond.
43	301 m	1a	No	No	No	No access. However, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body approximately 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
44	265 m	1	No	No	No	Flowing ditch, no pond located. Furthermore, water body approximately 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
45	232 m	1a	No	No	No	No obvious pond within flowing, shallow ditch.
46	416 m	1	No	No	No	No access. However, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland and a busy 'A' road) between Scheme and this water body. Furthermore, water body approximately 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
47	356 m	1	Yes – Below average	No	No	Water body is greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
48	314 m	1a	No	No	No	No obvious water body within flowing, shallow ditch. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
49	53 m	1a	Yes - Good	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
50	400 m	2	No	No	No	No access due to livestock. However, scoped out of assessment due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
51	299m	2	Yes – Good	No	No	Good HSI score. However, scoped out of further assessment as water body is greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
52	305m	2	Yes – Good	No	No	Good HSI score, however scoped out of further assessment as water body is greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
53	156m	2	Yes – Poor	No	No	Poor HSI score, with moderate water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
54	188m	2	Yes – Poor	No	No	Poor HSI score as water body close to drying out and little to no aquatic macrophytes (see Table A-1 in Annex B).
55	20m	2	Yes – Below average	No	Yes – if holding water in spring 2023	The HSI score was 'below average' and at the time of eDNA survey in May 2022, this water body was dry. This water body should be checked in spring 2023 for water (and an eDNA sample taken as a minimum, if holding water).
56	296m	1	Yes - Average	No	No	Average HSI score. However, scoped out of further assessment as water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
57	381m	2	No	No	No	No pond located and scoped out of further assessment as water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
58	296m	2	No	No	No	No pond located and assumed to be dry. Therefore, unlikely to support great crested newt . Furthermore, water body greater than 250m from the Scheme and

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
						scoped out of further assessment. Therefore, any impacts from the Scheme on Great Crested Newt, even if present, would not occur.
59	163m	2	Yes – Poor	No	No	Poor HSI score with bad water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
60	128m	2	No	No	Yes – if holding water in spring 2023	Water body dry at the time of HSI survey (March 2022). However, given the presence of great crested newt in the wider area, as a precaution this water body should be checked in spring 2023 for water (and an HSI survey undertaken (and eDNA sample) taken as a minimum, if holding water).
61	237m	2	Yes – Average	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
62	41m	2	Yes – Excellent	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
63	11m	2	Yes – Average	Yes (P)	Yes	Great crested newt present. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
64	73m	2	Yes – Poor	No	No	Poor HSI score with bad water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
65	36m	2	Yes – Poor	No	No	Poor HSI score with moderate water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
66	193m	2	No	No	Yes	No access in March 2022 (HSI) and May 2022 (eDNA) due to the presence of livestock (a bull).
67	27m	2	Yes - Poor	No	No	Poor HSI score with bad water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
68	349m	2	No	No	No	Not surveyed, due to water body location within farm buildings, located adjacent to residential properties. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed farmland and surrounding agricultural activity) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on Great Crested Newt, if present, will not occur.
69	225m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body nearly 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
70	296m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
71	12m	2	Yes – Poor	No	No	No access but surveyed from within the Site boundary. HSI poor and therefore scoped out of further assessment.
72	338m	2	Yes - Poor	No	No	Poor HSI score and scoped out of further assessment. Furthermore, barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body and water body greater than 250m from the

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
						Scheme. Therefore, any impacts from the Scheme on great crested newt t, if present, will not occur.
73	264m	2	Yes - Poor	No	No	Poor HSI score and scoped out of further assessment. Furthermore, barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body and water body greater than 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt t, if present, will not occur.
74	237m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body nearly 250m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
75	114m	2	Yes - Excellent	Yes (P)	Yes	Great crested newt eggs observed during eDNA survey. Population assessment required to quantify the population, determine appropriate mitigation and inform a development (mitigation) licence application.
76	234m	3	Yes – Average	No	Yes	Omitted from eDNA survey in error.
77	447m	2	No	No	No	No access. Scoped out during desk study due to barriers for GCN dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 400m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
78	459m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 400m from the Scheme. Therefore, any impacts from the Scheme on great crested newt , if present, will not occur.

Water body number (see Figure 1 for location)	Distance from Site (metres)	Closest Scheme Area to water body	HSI Assessment undertaken? (HSI score: excellent, good, average, below average, poor)	eDNA analysis undertaken? (Great Crested Newt - P = present; A = absent)	Further surveys (population assessment / eDNA) required?	Supporting comments
79	438m	2	No	No	No	No access. Scoped out during desk study due to barriers for great crested newt dispersal (intensively managed arable farmland) between Scheme and this water body. Furthermore, water body greater than 400m from the Scheme. Therefore, any impacts from the Scheme on great crested newt, if present, will not occur.
80	33m	3	Yes - Poor	No	No	Poor HSI score with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
81	475m	3	No	No	No	No obvious water body located. However, scoped out of further assessment as water body (if present) greater than 450m from the Scheme. Therefore, any impacts from the Scheme on great crested newt would not occur.
82	184m	3	Yes - Poor	No	No	Poor HSI score with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
83	186m	3	Yes - Poor	No	No	Poor HSI score with poor water quality and little to no aquatic macrophytes (see Table A-1 in Annex B).
84	433m	3	No	No	No	No access. Scoped out during desk study as water body greater than 400m from the Scheme. Therefore, any impacts from the Scheme on great crested newt occurring in this pond, if present, will not occur.

6. Conclusions & Recommendations

- 6.1.1 The desk study identified 84 water bodies within 500m of the Site. Of the 84 water bodies, 41 were scoped out of requiring any further survey for the reasons outlined in **Table 5-2**. Six water bodies were not surveyed for HSI or eDNA, due to a restriction on access.
- 6.1.2 Forty-one water bodies within the survey area were surveyed for their suitability to support great crested newt in March 2022 and water samples were collected from nine water bodies in May 2022. All nine water bodies were positive for great crested newt eDNA and confirmed presence of great crested newt. These water bodies will require population assessment surveys in spring 2023.
- 6.1.3 The desk and field-based surveys, undertaken in March and May 2022, have identified twenty-seven water bodies within the survey area (500m from the Site) that require further survey in spring 2023, either because in March and May 2022 there was no access, they were dry, they were not surveyed for other reasons (*e.g.* H&S) or that eDNA samples were positive for the presence of great crested newt. As a minimum, any such water bodies should be checked in mid-April 2023 for their water levels and an eDNA sample taken at that time. Further surveys, such as population assessment surveys, may follow and would be dependent on the results of the eDNA surveys. A summary of the recommended further surveys for each water body 'scoped in' is presented in **Table 6-1**.
- 6.1.4 Pond 42 could not be surveyed and presence of great crested newt has been assumed owing to the presence of Great Crested Newt in nearby ponds.

Table 6-1: Recommended further survey in spring 2023

Water body number (see Figure 1 for location)	Supporting comments
13, 17, 21, 29, 35	Access should be sought to water body and water body should be checked in mid-April 2023 for water and, as a minimum an eDNA sample should be taken if holding water. Further surveys (population assessment) may be required, dependent on the eDNA results.
12, 22, 25, 26, 37, 55, 60	Water body should be checked in mid-April 2023 for water and, as a minimum a HSI and an eDNA sample should be taken if holding water. Further surveys (population assessment) may be required, dependent on the eDNA results.
38, 66	Access in mid-April 2023 prior to cattle grazing field and take an eDNA sample
9	Population assessment (comprising six visits) between mid-April and June 2023.
10	Population assessment (comprising six visits) between mid-April and June 2023.
24	Population assessment (comprising six visits) between mid-April and June 2023.
32	Population assessment (comprising six visits) between mid-April and June 2023.
49	Population assessment (comprising six visits) between mid-April and June 2023.

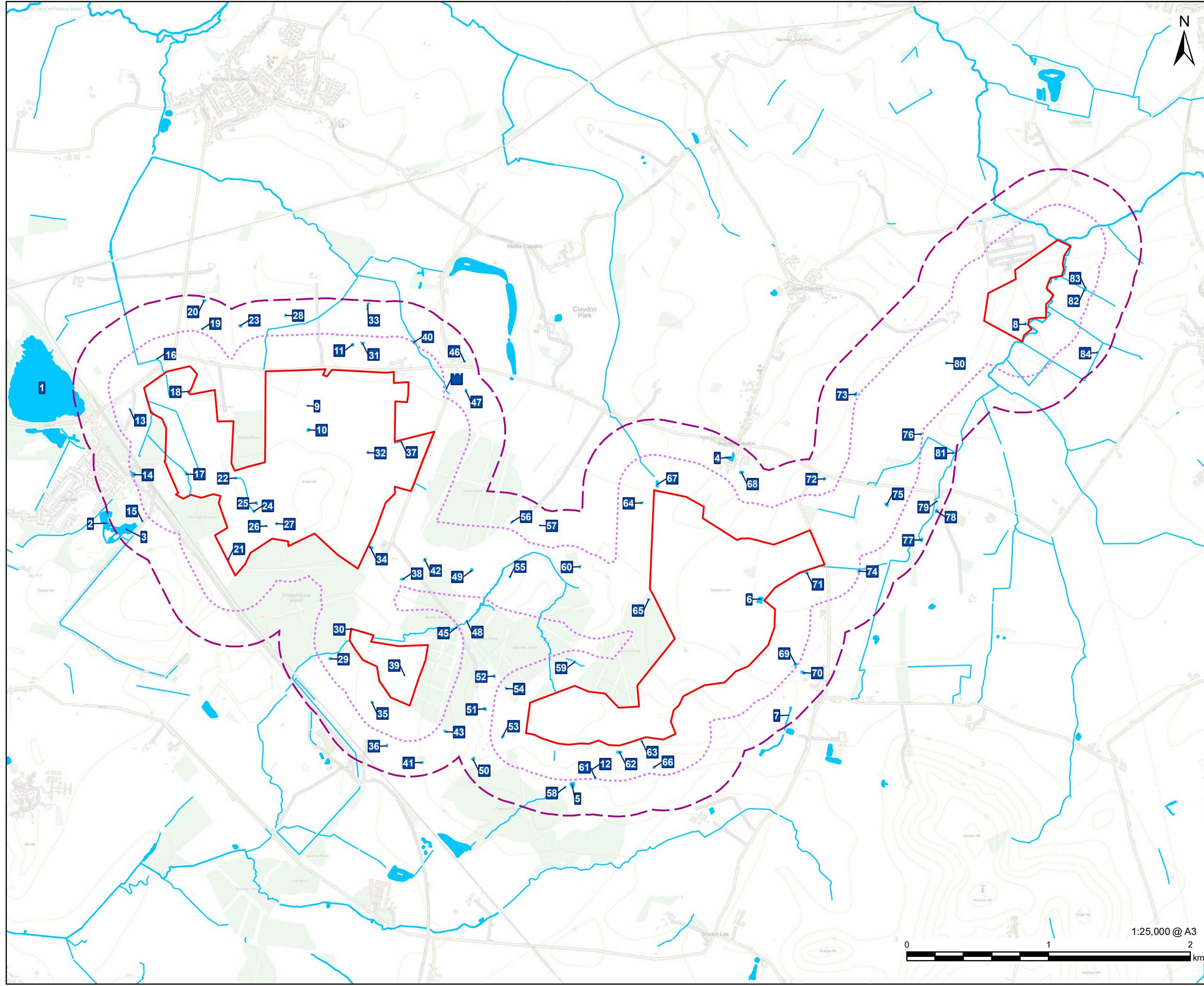
Water body number (see Figure 1 for location)	Supporting comments
61	Population assessment (comprising six visits) between mid-April and June 2023.
62	Population assessment (comprising six visits) between mid-April and June 2023.
63	Population assessment (comprising six visits) between mid-April and June 2023.
75	Population assessment (comprising six visits) between mid-April and June 2023.
76	eDNA survey required in April 2023

7. References

- Ref 7-1 Natural England (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt. <http://publications.naturalengland.org.uk/publication/134002>.
- Ref 7-2 English Nature. 2001. Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.
- Ref 7-3 HMSO. 2018. Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.
- Ref 7-4 HMSO. 1981. The Wildlife & Countryside Act 1981. HMSO, London.
- Ref 7-5 HMSO. 2000. Countryside and Rights of Way Act 2000. HMSO, London.
- Ref 7-6 European Commission. (1992). Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. EC, Brussels.
- Ref 7-7 HMSO. 2006. The Natural Environment and Rural Communities Act. HMSO, London.
- Ref 7-8 JNCC, UK Post-2010 Biodiversity Framework. 2012. Available at <http://jncc.defra.gov.uk/page-6189> (Accessed July 2022).
- Ref 7-9 Forward to 2030: Biodiversity Action Plan for Buckinghamshire and Milton Keynes. Available at: <https://bucks.mknep.co.uk/forward-to-2030/>.
- Ref 7-10 Oldham, R.S., Keeble, J., Swan, M.J.S., and Jeffcote, M. 2000. Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal, 10, 143-155.
- Ref 7-11 Biggs, J., Ewald N., Valentini, A., Gaboriaud C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.
- Ref 7-12 Natural England Standing Advice: <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>.
- Ref 7-13 AECOM (2022) Rosefield Solar Farm: Preliminary Ecological Appraisal.

Annex A Figures

Figure 1 Site boundary and water body locations



PROJECT
Rosefield Solar Farm

CLIENT
Rosefield EnergyFarm Limited

CONSULTANT
AECOM Limited
Unit 1 Wellbrook Court,
Girton, Cambridge,
CB3 0NA
www.aecom.com

- LEGEND**
- Site boundary
 - 250m site buffer
 - 500m site buffer
 - Waterbody/watercourse

NOTES
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ISSUE PURPOSE
For Information

PROJECT NUMBER
60662345

FIGURE TITLE
Site Boundary and Waterbody
Locations

FIGURE NUMBER
Figure 1

1:25,000 @ A3



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Annex B HSI scores

Table A-1: Habitat Suitability Index scores for water bodies assessed

Water body Reference (see Figure 1)	Water body Area (m ²)	Water body Drying	Quality	Shade (%)	Fowl	Fish	Water bodies within 1km	Terrestrial Habitat	Macrophytes (%)	HSI Score
5	500	Rarely	Poor	60	Absent	Absent	1	Good	20	0.77
6	1047	Sometimes	Bad	80	Absent	Absent	0	Moderate	<1	<0.50
8	100	Sometimes	Poor	0-10	Minor	Absent	0	Moderate	<1	<0.50
9	95	Rarely	Moderate	5	Absent	Absent	1	Good	5	0.63
10	275	Rarely	Moderate	30	Absent	Absent	1	Good	20	0.78
11	115	Sometimes	Moderate	70	Absent	Absent	2	Good	10	0.66
12	Dry in March 2022									
16	No pond located in this area									
18	No pond located in this area									
19	Pond location appeared dry, scoped out for other reasons									
20	Pond location dry									
22	50	Annually	Good	80	Absent	Absent	5	Good	60	0.58
23	105	Annually	Poor	80	Absent	Absent	3	Good	0	<0.50
24	45	Annually	Moderate	60	Absent	Absent	5	Good	50	0.53

Water body Reference (see Figure 1)	Water body Area (m ²)	Water body Drying	Quality	Shade (%)	Fowl	Fish	Water bodies within 1km	Terrestrial Habitat	Macrophytes (%)	HSI Score
25	80	Annually	Good	90	Absent	Absent	5	Good	10	0.51
26	25	Annually	Good	30	Absent	Absent	5	Good	70	0.53
27	30	Annually	Poor	90	Minor	Absent	5	Good	0	<0.50
30	No pond located in this area									
31	40	Annually	Poor	50	Absent	Absent	2	Good	0	<0.50
32	110	Sometimes	Good	90	Absent	Absent	1	Good	0-10	0.61
33	Flowing ditch, no pond									
34	545	Rarely	Moderate	10	Minor	Absent	2	Good	0-10	0.80
37	155	Annually	Good	70	Absent	Absent	1	Good	60	0.63
38	45	Sometimes	Good	60	Absent	Absent	3	Good	70	0.66
39	No pond located in this area									
42	50	Sometimes	Moderate	80	Absent	Absent	3	Good	10	0.55
44	Flowing ditch, no pond									
45	Flowing ditch, no pond									
47	92	Annually	Moderate	10	Absent	Absent	2	Good	<10	0.53
48	Flowing ditch, no pond									
49	150	Rarely	Moderate	20	Absent	Absent	2	Good	20	0.76
51	105	Rarely	Good	30	Absent	Absent	2	Good	20	0.76

Water body Reference (see Figure 1)	Water body Area (m ²)	Water body Drying	Quality	Shade (%)	Fowl	Fish	Water bodies within 1km	Terrestrial Habitat	Macrophytes (%)	HSI Score
52	60	Annually	Moderate	20	Absent	Absent	2	Good	<10	0.52
53	135	Never	Moderate	50	Absent	Absent	3	Moderate	<1	<0.50
54	50	Annually	Good	100	Absent	Absent	2	Moderate	0	<0.50
55	50	Sometimes	Moderate	80	Absent	Absent	1	Good	10	0.53
56	55	Sometimes	Moderate	60	Absent	Absent	2	Good	30	0.65
57	Pond location dry									
58	Pond location dry									
59	55	Sometimes	Bad	70	Absent	Absent	0	Moderate	0	<0.50
60										
61	25	Sometimes	Good	30	Absent	Absent	4	Good	70	0.67
62	350	Rarely	Good	10	Minor	Absent	4	Good	20	0.84
63	100	Sometimes	Good	70	Minor	Absent	4	Moderate	10	0.64
64	80	Annually	Bad	90	Absent	Absent	1	Good	0	<0.50
65	130	Rarely	Moderate	100	Absent	Absent	0	Moderate	10	0.50
66										
67	390	Sometimes	Poor	90	Absent	Absent	1	Good	0	<0.50
71	65	Rarely	Moderate	100	Absent	Absent	0	Moderate	<1	<0.50
72	70	Annually	Poor	100	Minor	Absent	1	Moderate	0	<0.50

Water body Reference (see Figure 1)	Water body Area (m ²)	Water body Drying	Quality	Shade (%)	Fowl	Fish	Water bodies within 1km	Terrestrial Habitat	Macrophytes (%)	HSI Score
73	46	Rarely	Moderate	100	Absent	Absent	0	Good	<1	<0.50
75	220	Never	Good	60%	Absent	Absent	5	Moderate	30%	0.81
76	45	Rarely	Moderate	50	Absent	Absent	1	Good	50	0.65
80	70	Never	Poor	0-10	Minor	Absent	0	Good	<10	<0.50
82	45	Rarely	Poor	100	Absent	Absent	1	Moderate	<1	<0.50
83	30	Rarely	Poor	100	Absent	Absent	1	Moderate	<1	<0.50

HSI Score colour coding – Dark green: Excellent likelihood of Great Crested Newt present; Light green – Good likelihood of Great Crested Newt present; Yellow – Average likelihood of Great Crested Newt present; Orange – Below average likelihood of Great Crested Newt present; and Red – Poor likelihood of Great Crested Newt present.

Annex C: eDNA results

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 27/05/2022
Date Reported: 09/06/2022
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
1445	10 Custodian	SP 7029 2460	Pass	Pass	Pass	Positive	11
1451	49 Custodian	SP 7144 2361	Pass	Pass	Pass	Positive	7
1453	32 Custodian	SP 7070 2444	Pass	Pass	Pass	Positive	1
1455	63 Custodian	SP 7264 2240	Pass	Pass	Pass	Positive	12
1459	62 Custodian	SP 7248 2233	Pass	Pass	Pass	Positive	12
1462	75 Custodian	SP 7436 2408	Pass	Pass	Pass	Positive	12
1466	61 Custodian	SP 7231 2214	Pass	Pass	Pass	Positive	12
1468	24 Custodian	SP 6990 2403	Pass	Pass	Pass	Positive	12
3246	9 Custodian	SP 7028 2477	Pass	Pass	Pass	Positive	12

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com



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 Company Registration No. 08950940

Appendix F-5

PEA June, July, August and October 2023

Rosefield Solar Farm

Preliminary Ecological Appraisal Report



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1. Introduction

1.1. Purpose of this report

- 1.1.1. This report presents the results of a preliminary ecological appraisal (PEA), comprising a background data search, a UK habitat survey (UKHab), with assessment for protected or otherwise notable species and hedgerows regulation assessment at the proposed Rosefield Solar Farm development (central Grid Reference SP729231). The survey area included the land within the red-line boundary (the Site), the Site and survey area are shown in **Figure 1**.
- 1.1.2. The report identifies ecological constraints relevant to the project, specifies any further survey or mitigation requirements (e.g. for any Ecological Impact Assessment), gives recommendations for avoidance and protection through design changes, and suggests opportunities for ecological enhancement, in particular to deliver biodiversity net gain. The appraisal was carried out on behalf of EDF Renewables.

1.2. Project Overview

- 1.2.1. Rosefield Solar Farm is a proposed solar farm with energy storage which will generate and store renewable electricity for export to the National Grid. The main features of the Proposed Development consists of the following elements:
- Ground mounted solar PV generating station which comprises; solar PV modules and mounting structures.
 - Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear.
 - Collector Compounds comprising; switchgear, transformers, ancillary equipment, and an operation, maintenance and welfare facilities, and security cabins.
 - Rosefield Substation compound, which will include; substation including transformers, switching and control equipment, office / control / welfare buildings, storage areas, and provisions for vehicular parking and material laydown.
 - Battery Energy Storage System (BESS) compound(s) which will include; office / control / welfare buildings and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables, and fire safety infrastructure.
 - Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting, landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development.
 - Landscaping, habitat management, biodiversity enhancement and amenity improvements.
 - Highway works to facilitate vehicular access to the Site.

2. Methods

2.1. Introduction

2.1.1. The PEA was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017); it therefore included:

- a desk study (here called a background data search (BDS)), which included a review of aerial photographs; obtaining information from the DEFRA and JNCC websites, and the local authority website; requesting data from the local records centre); and
- a field survey that informed habitat mapping, an assessment of the possible presence of protected or priority species and the likely importance of habitat features.

2.1.2. The PEA report includes an ecological description of the Site and information about species that may occur there. Notes and mapping of any incidental sightings of invasive non-native plant species and protected or priority fauna species are also provided.

2.1.3. The survey was carried out between June - July 2023 by suitably qualified and experienced ecological consultants, who are members of CIEEM, and experienced in carrying out preliminary ecological appraisals.

2.2. Background Data Search

2.2.1. A search was made in August 2023 for relevant reference materials. A list of sources is given in **Table 1**.

Table 1 Data sources

Information obtained	Available from
Protected and noteworthy species-records	Buckinghamshire and Milton Keynes Environmental Record Centre
MAGIC (the Multi-Agency Geographic Information website) to view statutory designated nature conservation sites	www.magic.gov.uk [NB: this site is included for convenience as a viewer, but data to create maps for any figures used is extracted from Open Source data provided by the SNCBs]
Nationally designated site locations and citations	Natural England website
European and Internationally designated site locations and citations	Joint Nature Conservation Committee (JNCC) website
Local Designated site locations and citations	Buckinghamshire and Milton Keynes Environmental Record Centre

Information obtained	Available from
Designations and legal protection of noteworthy species	Joint Nature Conservation Committee (JNCC) website
Details of species and habitats listed on the LBAP	Local biodiversity action plan website https://bucksmknep.co.uk/forward-to-2030/
Local planning guidance and policies	<p>National Habitat Networks https://www.data.gov.uk/dataset/0ef2ed26-2f04-4e0f-9493-ffbdfbaeb159/habitat-networks-england</p> <p>National Priority Focus Areas https://www.data.gov.uk/dataset/c20a40c5-c975-43e1-9abd-d1257aa58432/natural-england-national-priority-focus-areas</p> <p>Nature Improvement Areas https://www.data.gov.uk/dataset/a19c95e3-9657-457d-825e-3d2f3993b653/nature-improvement-areas</p> <p>Vale of Aylesbury Local Plan (VALP) 2013-2033 https://www.buckinghamshire.gov.uk/planning-and-building-control/planning-policy/local-development-plans-and-guidance/local-development-plans/</p> <p>Buckinghamshire Local Plan https://www.buckinghamshire.gov.uk/planning-and-building-control/local-development-plans-info/buckinghamshire-local-plan/</p> <p>Buckinghamshire & Milton Keynes Biodiversity Action Plan https://bucksmknep.co.uk/forward-to-2030/</p>
Aerial photography	As a viewer only, sources include: www.google.com ; www.bing.com ; Google earth. Where reproduced as figures, sources vary and be licensed through ArcGIS, as stated.

2.2.2. A search was made for the following international and national statutory designated sites of ecological importance within 10 km of the Site Boundary: Ramsar sites,

Special Areas of Conservation (SAC), Special Protection Areas (SPA)¹, and for Sites of Special Scientific Interest (SSSI), including consideration of SSSI risk zones, within 2 km.

- 2.2.3. A search was also made for non-statutory designated (often important in a local context) within 2 km of the Site Boundary. A search was also made for non-statutory designated (often important in a local context) within 2 km of the Site Boundary. The distances were selected due to the habitats within the Site being functionally linked to habitats in the wider area which are considered suitable and are known to support a range of protected and notable species.
- 2.2.4. The BDS also included a search for records within 2 km of the Site Boundary of noteworthy species, which might pose a constraint to the proposed development. Species included in the search were:
- European protected species (listed on Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended));
 - nationally protected species under Schedules 1, 5 and 8 of The Wildlife & Countryside Act 1981 (as amended) and The Protection of Badgers Act 1992;
 - species listed as critically endangered, endangered or vulnerable based on the IUCN Red List Categories and Criteria 2001;
 - all species listed on the Birds of Conservation Concern 5 (Stanbury et al., 2021) as red' or 'amber';
 - nationally rare or nationally scarce species;
 - notable invertebrates²; and
 - species of principal importance listed under The Natural Environment and Rural Communities (NERC) Act 2006 or priority species under the relevant local biodiversity action plan.
- 2.2.5. The following reports relating to the proposed development were reviewed:
- Custodian Solar Farm Preliminary Ecological Appraisal Report (AECOM, February 2022)
 - Custodian Solar Farm Badger Survey Report (Confidential) (AECOM, June 2022)
 - Custodian Solar Farm Bat Preliminary Roost Assessment Report (AECOM, August 2022)
 - Custodian Solar Farm Great Crested Newt Habitat Suitability Index and eDNA Report (AECOM, August 2022)
 - Custodian Solar Farm Wintering Bird Survey Report (AECOM, August 2022)
 - Custodian Solar Farm Report on Surveys for Breeding Birds (AECOM, August 2022)

¹ SACs and SPAs were formerly called 'European Sites' and part of the Natura 2000 network; post-'Brexit', they are now considered part of the UK's 'national site network'. Ramsar sites are sites of international importance. See Appendix A for details. Note that SPAs, SACs and Ramsar sites are also underpinned by SSSI designations whose citations/boundaries may be slightly different.

² Appendix C includes a description of 'notable' as used in this context.

2.3. Plants and habitats

UK Habitat Survey

- 2.3.1. The field survey was based on the UK habitats (UK Hab) survey methodology (Version 1.1; Butcher *et al.*, 2020), as extended for use in environmental impact assessment (Institute of Environmental Assessment 1995). The UKHab classification system is the habitat classification that underpins the DEFRA Biodiversity Metric and is therefore the favoured habitat classification to use when surveys need to inform a Biodiversity Net Gain Calculation. This field survey was undertaken in line with CIEEM 2017 and involved the following elements:
- habitat mapping using a set of standard colour codes to indicate habitat types on a habitat map (**Figure 3**); and
 - a description of features of possible ecological or nature conservation interest in notes relating to numbered locations on the habitat map, called ‘target notes’ (**Figure 5**).
- 2.3.2. Vascular plant species were recorded during the survey, although no attempt was made to produce an exhaustive species list (additional species would almost certainly be found during more detailed surveys or repeat surveys at various times of the year).
- 2.3.3. Plant nomenclature in this report follows Stace (2019) for native and naturalised species of vascular plant, and mosses and liverworts follow Hill *et al.* (2008). Introduced species and garden varieties were identified using relevant Floras. Plant names in the text are given with common names with the scientific name (in italics) immediately following the first time it is mentioned.

Hedgerow Regulations

- 2.3.4. The status of each hedgerow within and bordering the Site was assessed using the Wildlife and Landscape Criteria of the Hedgerows Regulations 1997. A hedgerow is considered ‘important’ if it is more than 30 years old and meets at least one of these criteria (amongst others):
- Contains protected species listed in the Wildlife and Countryside Act 1981 (as amended).
 - Contains species that are endangered, vulnerable and rare and identified in the British Red Data books.
 - Includes woody species and associated features as specified in Schedule 1, Part II Criteria, paragraph 7(1) of the Hedgerow Regulations - the number of woody species needed to meet the criteria is one fewer in northern counties.
- 2.3.5. Those hedgerows that were assessed as ‘important’ were indicated on the habitat map (**Figure 4**).

Notable arable weeds

- 2.3.6. A botanical survey was undertaken to determine the presence (if any) of scarce or notable arable weeds in arable fields associated with the site. The perimeters of the arable fields were walked by surveyors and where necessary, tramlines through fields were used to reduce disturbance to crops. Any arable weeds

identified along the edges of the crop or areas of bare ground where the crop had failed were recorded producing an overall arable weed species list for the whole site.

Invasive non-native species (INNS)

- 2.3.7. UKHab survey does not involve exhaustive surveying for individual plant species, and various invasive species may be little in evidence at various times of year (depending on the species). A survey seeking to identify habitat types cannot therefore be relied upon to provide firm information about the presence or extent of any INNS. However, any INNS that were encountered during the habitat survey were noted, including Japanese Knotweed (*Reynoutria japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan Balsam (*Impatiens glandulifera*), as well as any INNS of animals.

2.4. Protected and notable animals

General

- 2.4.1. The Site was assessed for its suitability to support protected or otherwise notable animals that are likely to occur in the area. Taking into account the results of the BDS, the geographic location, connectivity to natural habitats in the wider landscape, the nature and extent of habitats at the site, and the proposed development, specific assessment was also carried out for the species / species groups outlined below.

Invertebrates

- 2.4.2. The Site was assessed for its suitability to support notable species and/or assemblage of invertebrates, but no specific surveys were undertaken. The habitat requirements of particular invertebrates are often species-specific, so consideration was given to the presence of features and habitats that might be suitable for the notable species identified in the BDS.

Fish

- 2.4.3. Waterbodies / watercourses within / alongside the Site were broadly assessed for their likely habitat and water quality, and consequent suitability to support fish (and other species); however, no specific fish surveys were undertaken.

Great crested newts

- 2.4.4. Although standing water is essential for their breeding, great crested newts (*Triturus cristatus*) are terrestrial for most of the year and have been recorded up to 500 m from their breeding ponds. Ordnance Survey maps and aerial imagery was reviewed to identify any ponds within 500 m of the Site Boundary, and the Site was assessed for its suitability for both terrestrial and breeding great crested newts. Optimal breeding ponds tend to be well-vegetated, relatively clean and unpolluted, free of fish and wildfowl, and retentive of water throughout most summers (but not necessarily all). Highly suitable terrestrial habitats include woodland, scrub and tussocky grassland, although great crested newts can be

found in a broad range of sub-optimal habitats as well. Habitat suitability for other amphibians was similarly assessed.

Reptiles

- 2.4.5. The Site was assessed for its suitability for the four most widespread reptile species, with particular attention given to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (e.g. rough grassland and scrub).
- 2.4.6. Specific habitat requirements differ between species. Common lizards (*Zootoca vivipara*) and slow-worms (*Anguis fragilis*) favour rough grassland. Grass snakes (*Natrix helvetica*) have broadly similar requirements, with a greater reliance on ponds and wetlands. Adders (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

Birds

- 2.4.7. Birds nest, forage and roost in a wide variety of habitats including scrub, woodland, hedgerows and trees, wetland, arable and pastoral farmland and rough grassland. Some species also use open bare ground and man-made structures.
- 2.4.8. The Site was assessed for its suitability to support diverse assemblages and/or uncommon species of breeding and non-breeding birds, with an emphasis on those species that are listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended), the red and amber lists of the Birds of Conservation Concern 5 (Stanbury *et al.*, 2021) and other notable species recorded in the BDS, including any species that are qualifying features of nearby designated sites. Consideration was given to the site's connectivity to landscape features that are likely to be of particular importance to birds, such as extensive areas of semi-natural woodland or wetlands. The presence of nests or signs of nest building were recorded, and buildings were surveyed for their suitability for barn owls and other species, with signs including nesting sites, feathers, droppings and pellets.

Bats

- 2.4.9. Habitats were assessed for their suitability for foraging and commuting bats, in line with guidance provided in Collins (2016). Areas of particular interest vary between species, but generally include sheltered areas and habitats with good numbers of insects, such as woodland, scrub, rivers and species-rich or rough grassland.
- 2.4.10. Trees and man-made structures were noted if they had potential suitability for roosting bats (Collins, 2016). This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites).

Dormice

- 2.4.11. Habitats were assessed for their general suitability for dormouse (*Muscardinus avellanarius*). Dormice generally use areas of dense woody vegetation cover (including hedgerows) and are more likely to be found where there is a wide diversity of woody species contributing to three-dimensional habitat complexity, a

number of food sources, plants suitable for nest-building material, and good connectivity to other areas of suitable habitat.

Water voles and otters

- 2.4.12. Waterbodies and watercourses and their surrounding habitats were assessed to determine whether they were suitable for water voles (*Arvicola amphibius*). Suitable habitats include vegetated earth banks, reed beds, flowing water and wet ditches. Incidental signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered.
- 2.4.13. Waterbodies and watercourses on the Site were also assessed for their suitability for otters (*Lutra lutra*). Otters require clean rivers and associated waterbodies with an abundant, varied supply of food and plenty of bank-side vegetation, offering secluded sites for their holts. Other suitable habitats include reed beds and interconnected ditches and streams. Incidental signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered.

Badgers

- 2.4.14. An initial assessment was carried out to identify areas that might be used by badgers (*Meles meles*) for foraging or sett building within 30 m of all areas potentially affected by works (where access was possible). The area was systematically searched for signs of badgers including setts, foraging signs, paths (runs) and latrines where possible, and the category of sett and levels of activity visible at each sett was recorded.

Other species of Principal Importance

- 2.4.15. The UK countries of England, Wales, Scotland and Northern Ireland are obliged by their individual laws to maintain lists of species and habitats of principal importance for biodiversity conservation. In England, this obligation derives from the Natural Environment and Rural Communities (NERC) Act 2006. An assessment of the suitability and likelihood of the Site supporting such species was made (for example, hedgehog (*Erinaceus europaeus*)).

2.5. Constraints and limitations

- 2.5.1. Less conspicuous plant species (including INNS) may have been missed as a result of the survey being undertaken outside of the ideal survey season. However, the majority of plants present were confidently identified, and the survey was sufficient to make a broad assessment of the habitats present on the site.
- 2.5.2. This preliminary appraisal as to whether protected or otherwise notable species might occur on the Site is based on the suitability of habitat, the known distribution of relevant species in the local area (from online sources and desk study), and any signs of the relevant species. It does not constitute a full and definitive survey of any protected species group.
- 2.5.3. Field signs for protected and valuable species are often difficult to find or absent from a site. The survey conducted was not intended to be a comprehensive presence/absence survey for all species, but rather to provide an indication of the

likely presence of such species based on the field signs found, and the nature of the habitats present.

- 2.5.4. Access was not made to adjacent land, and therefore it remains possible that a badger sett (or other evidence of protected or notable species) beyond the Site Boundary could have been missed. Much of the Site was also covered by dense bramble scrub, which prevented a full survey for both badger and nesting birds being conducted. The peripheries of all such areas were, however, extensively searched, providing a high level of confidence in the results and assessment provided.
- 2.5.5. All recommendations made in this report are based on the proposed Site Boundary. If the plans change significantly, then an ecologist must be consulted and further surveys may be required.

3. Results

3.1. Background Data Search

Statutory designated sites

3.1.1. There are 10 statutory designated sites within 10 km of the Site Boundary, comprising all SSSIs of which only those within 2 km require consideration. These sites are listed in **Table 2** in order of proximity to the site; short descriptions are given for the sites.

Table 2 Statutory sites within 10 km of the Site Boundary (2 km for SSSIs and LNRs)

Site name	Reasons for designation	Approximate distance and direction from site
Sheephouse Wood SSSI	Sheephouse Wood is a large, well-structured block of ancient pedunculate oak woodland carrying a wide range of stand types, some of which are relatively uncommon in the region. The site has a characteristically diverse woodland flora, a typical range of breeding birds and is of particular interest for its invertebrate fauna which includes notable and local species. Sheephouse is also important for supporting roosting and foraging bats and bats are due to be added to the citation for the site.	0 m - adjacent to Parcel 1 and 1a boundary
Finemere Wood SSSI	Finemere Wood is a large ancient pedunculate woodland supporting rich communities of native plants, birds, insects and other animals. In particular the wood contains populations of some local butterflies, including the nationally rare wood white and black hairstreak. Parts of the wood consist of neglected conifer plantations and the site also incorporates an adjacent area of unimproved rough grassland and scrub. As for Sheephouse bats are to shortly added to the citation for the site.	0 m - adjacent to Parcel 2 boundary
Grendon and Doddershall Woods SSSI	Grendon and Doddershall Woods constitute an important tract of broadleaved woodland of a kind formerly far more	1.36 km southwest of Parcel 1a

Site name	Reasons for designation	Approximate distance and direction from site
	extensive on the clays of north Buckinghamshire. Again, these sites are important for bat species and bats are likely to be added to the citations for these sites.	

Non-Statutory Sites

3.1.2. There are 23 non-statutory designated sites within 2 km of the Site Boundary, namely 14 Local Wildlife Sites (LWS), five Biological Notification Sites (BNS), two Wildlife Trust Reserves (WTR) and two Biodiversity Opportunity Areas (BOA). The designated sites present within the study area are listed in **Table 3** along with their proximity to the site.

Table 3 Non-statutory designated sites within 2 km of the Site Boundary

Site name	Reasons for designation	Approximate distance and direction from site
Bernwood BOA	No citation provided for BOAs.	0 m - overlaps with Parcels 1, 1a and 2
Shrub Woods LWS	Ancient woodland site.	0 m - north of Parcel 1
Decoypond Wood LWS	Woodland on the western edge of a cluster of ancient woodlands south of Steeple Claydon and Close to Calvert Jubilee Nature Reserve. The woodland is a mix of wet Ash and relic Hazel coppice with Oak, Birch and Field Maple with a variety of ancient woodland indicator plants	0 m - west of Parcel 1
Romer Wood LWS	Part of a group of ancient woodlands with species rich rides.	0 m - north-east of Parcel 1a
Runts Wood LWS	Part of a group of ancient woodlands with good diversity and density of plant species within rides including particularly flower rich communities in wetter areas.	0 m - adjacent to Parcel 2
Finemere WTR	No citation provided for WTRs.	0 m - south Parcel 2
Home Wood, Middle Claydon LWS	Large relatively wet ancient woodland site, part of a group of ancient woodlands.	85 m east of Parcel 1

Site name	Reasons for designation	Approximate distance and direction from site
Baltimore Wood LWS	Large ancient woodland site, part of a group of ancient woodlands.	105 m west of Parcel 2
Calvert Railway Station LWS	Disused railway station with wet grassland on clay. Site supports species that are rare to the county including Carnation Sedge (<i>Carex panicea</i>), Betony (<i>Stachys officinalis</i>), and Sneezewort (<i>Achillea ptarmica</i>), with habitats supporting a diverse range of invertebrate and bird species and common lizard (<i>Zootoca vivipara</i>) which is rarely recorded in the county.	185 m west of Parcel 1
Greatsea Wood LWS	Part of a group of ancient woodlands with species rich rides.	207 m east of Parcel 1a
Calvert Jubilee WTR	No citation provided for WTRs.	360 m west of Parcel 1
Calvert Jubilee Nature Reserve LWS	Large, disused clay pit. It is especially important as an overwintering site for wildfowl. Also supports county rare plant species Blue Fleabane (<i>Erigeron acer</i>), Devil's-bit Scabious (<i>Succisa pratensis</i>) and Heath Grass (<i>Danthonia decumbens</i>).	365 m west of Parcel 1
Area north-west of Calvert Brickworks BNS	No citation provided for BNSs.	741 m west of Parcel 1
Track leading to railway BNS	No citation provided for BNSs.	790 m south of Parcel 1a
Grendon and Dodershall Meadows LWS	Large complex of meadows either side of the railway west of Quanton supporting a great variety of wildlife including farmland birds, common blue (<i>Polyommatus icarus</i>), and marbled white (<i>Melanargia galathea</i>) butterflies, typical unimproved meadow flora and several plant species that are unusual in Bucks, namely Sneezewort, Fen Bedstraw (<i>Galium uliginosum</i>), Oval Sedge (<i>Carex ovalis</i>) and Blunt Flowered Rush (<i>Juncus subnodulosus</i>).	804 m south of Parcel 2
Calvert Brick Pits, Great Moor Sailing Club LWS	Large lake surrounded by a mosaic of scrub and grassland glades including pockets of calcareous grassland.	986 m west of Parcel 1

Site name	Reasons for designation	Approximate distance and direction from site
Redland Bridge, Steeple Claydon BNS	No citation provided for BNSs.	1.35 km north of Parcel 1
Wood between Lawn Hill and Dunsty Hill LWS	Small woodland with ancient woodland indicator, located beside an area of cleared ancient woodland surrounded by relic laid hedgerows with now shallow ditches.	1.37 km south-west of Parcel 1
Grendon Underwood Meadows LWS	Fields supporting high diversity of typical unimproved meadow flower species.	1.45 km south-west of Parcel 1a
Upper Ray BOA	No citation provided for BOAs.	1.46 km south-east of Parcel 1a
Stonehill Lane LWS	The lane runs north to south in an open, rolling landscape of hedge-lined fields to the west of North Marston. It lies on a section of Roman road and forms part of three parish boundaries making it a very important historic and archaeological feature in the landscape. The site supports species-rich hedgerows and grassland areas.	1.68 km south-east of Parcel 3
Grassland near Addington BNS	No citation provided for BNSs.	1.94 km north-west of Parcel 3
South Lake, Addington BNS	No citation provided for BNSs.	1.95 km north-west of Parcel 3

Habitats

3.1.3. There are 52 areas of ancient woodland within 2 km of the Site Boundary, of which 33 are areas of ancient semi-natural woodland and 19 are areas of replanted ancient woodland. The closest areas of ancient woodland are both ancient semi-natural woodland and replanted ancient woodland that are directly adjacent to the Site Boundary in multiple locations.

Biodiversity Action Plans

3.1.4. Habitats on the Site that qualify as the priority habitat types under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006 include:

- Hedgerows
- Ponds
- Arable field margins
- Lowland mixed deciduous woodland

- 3.1.5. The Buckinghamshire and Milton Keynes Biodiversity Action Plan (BAP) serves as the interim Biodiversity Strategy, with a focus on nature's recovery, until such time as formal Local Nature Recovery Strategies (LNRS) are finalised to cover Buckinghamshire and Milton Keynes.
- 3.1.6. The BAP lists a number of habitats as local formal targets, those relevant to the Site include:
- Ponds
 - Rivers and streams
 - Lowland mixed deciduous woodland
 - Hedgerows

Protected and Notable Species

- 3.1.7. At least 346 protected and noteworthy species/groups are recorded from places within 2 km of the Site Boundary. Noteworthy species include species of principal importance that are listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.
- 3.1.8. Of these, 22 are plants, one is a fungi, 143 are invertebrates, one is a fish, five are amphibians, three are reptiles, 147 are birds, and 24 are mammals (of these, 17 are bats). Species that are protected by law under Schedules 2 and 5 of The Conservation of Habitats and Species Regulations 2017 (as amended), Schedules 1, 2, 5 and 8 of The Wildlife and Countryside Act 1981 (as amended) or The Protection of Badgers Act 1992 that have been recorded in the search area are highlighted in the full species list is given in **Appendix B**. Those of relevance to the Site and the current proposals are discussed in **Sections 3.2** and **3.3**.

3.2. Plants and habitats

Protected and notable plants

- 3.2.1. The BDS returned records of 22 notable plant species within 2km of the Site Boundary including true Fox-sedge (*Carex vulpina*), Juniper (*Juniperus communis*), Grape-hyacinth (*Muscari neglectum*), Tubular Water-dropwort (*Oenanthe fistulosa*) (species listed under Section 41 of the NERC Act 2006) and Bluebell (*Hyacinthoides non-scripta*) (WCA Section 8). No records were identified within the Site Boundary however several records were located within the areas of woodland adjacent to the Site.
- 3.2.2. During the survey Bluebell was recorded within areas of woodland, however no other notable plant species were recorded within the Site Boundary, predominantly due to the intensity of the agricultural field management.

UK Habitat Survey

- 3.2.3. The UKHab habitat map is provided as **Figure 3** and shows the location of the target notes referred to in the text below. A full description for each of the target notes is given in **Appendix D**. A description of the UKHab habitat classification and corresponding codes are presented in **Table 4**.

Table 4. UKHab habitats and corresponding codes.

UKHab Primary Habitat	UKHab code
Cereal crop	c1c
Non-cereal crops	c1d
Other neutral grassland	g3c
Modified grassland	g4
Other woodland: broadleaved	w1g
Lowland mixed deciduous woodland	w1f
Ponds (priority habitat)	r1
Mixed scrub	h3h
Bramble scrub	h3d
Buildings	u1b5
Artificial unvegetated, unsealed surface	u1c
Native hedgerow	h2a
Native hedgerow with trees	h2a
Native hedgerow – associated with bank or ditch	h2a
Native hedgerow with trees – associated with bank or ditch	h2a

UKHab Primary Habitat	UKHab code
Species-rich native hedgerow	h2a
Species-rich native hedgerow with trees – associated with bank or ditch	h2a
Species-rich native hedgerow with trees	h2a
Line of trees	w1g6
Ecologically valuable line of trees	w1g6
Other rivers and streams	r2b

Grassland

- 3.2.4. Several grassland fields were recorded within Site 1 (predominantly to the west of the site), Site 1a (predominantly to the south and west of the site) and Site 2 (predominantly to the south of the site) and south of Site 3 (predominantly to the north of the site). The majority of these fields comprised modified grassland (UKHab code g4) with several currently grazed by cattle, sheep and horses. Grass species recorded within these fields included Perennial Rye-grass (*Lolium perenne*), Common Bent (*Agrostis capillaris*), False Oat-grass (*Arrhenatherum elatius*), Yorkshire-fog (*Holcus lanatus*), Meadow Foxtail (*Alopecurus pratensis*), Meadow-grasses (*Poa* sp.), Crested Dog's-tail (*Cynosurus cristatus*), Timothy (*Phleum pratense*), Common Couch (*Elytrigia repens*), Black Grass (*Alopecurus myosuroides*) and Meadow Barely (*Hordeum secalinum*). Forb species recorded included, Creeping Buttercup (*Ranunculus repens*), Broad-leaved Dock (*Rumex obtusifolius*), White Clover (*Trifolium repens*), Creeping Thistle (*Cirsium arvense*), Common Nettle (*Urtica dioica*) and Redshank (*Persicaria maculosa*).
- 3.2.5. The majority of cropland fields supported grassland margins (UKHab code g4) ranging approximately 1-3 m in width. Species commonly recorded within the margins comprised Common Bent, False Oat-grass, Yorkshire-fog, Perennial Rye Grass, Meadow Foxtail, Smooth Meadow-grasses, Crested Dog's-tail, Timothy, Common Couch, Black-grass, Soft-brome (*Bromus hordeaceus*), Redshank, Creeping Buttercup, Creeping Thistle and Hogweed (*Heracleum sphondylium*).
- 3.2.6. Smaller areas of other neutral grassland (UKHab code g3c,) were recorded throughout the sites, primarily to the west and south of Site 1 and north of Site 1a which included areas recently planted as part of HS2 mitigation with scattered young trees planted and south of Site 2. Grass species generally comprised Yorkshire-fog, Meadow Barley, Crested Dog's-tail, Meadow Foxtail, Common Bent, Tufted Hair-grass (*Deschampsia cespitosa*), Timothy, False Oat-grass, Red Fescue (*Festuca rubra*), Cock's-foot (*Dactylis glomerata*), Soft-brome and Sweet Vernal Grass (*Anthoxanthum odoratum*). Forb species recorded comprised Meadow Buttercup (*Ranunculus acris*), Creeping Buttercup, Creeping Cinquefoil (*Potentilla reptans*), Yarrow (*Achillea millefolium*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Soft-rush (*Juncus effusus*), Hard Rush (*Juncus inflexus*), Tufted Vetch (*Vicia cracca*), Bristly Oxtongue (*Helminthotheca echioides*), Meadow Vetchling (*Lathyrus pratensis*), St Johns-wort species (*Hypericum* sp.), Willowherb

species (*Epilobium* sp.), Lady's Bedstraw (*Galium verum*), White Clover and Hogweed.

Woodland and Forest

- 3.2.7. Within the Site 1, Site 2 and Site 3 small copses of woodland were recorded, however these were limited in extent, with larger areas of woodland recorded along the boundaries of Site 1, Site 1a and Site 2. The majority of the woodland areas were recorded as other woodland; broadleaved (UKHab code w1g) with smaller number of areas recorded as lowland mixed deciduous woodland (UKHab code w1f). Species recorded within the canopy typically comprised Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*), Oak (*Quercus* sp.), Field Maple (*Acer campestre*), Willow (*Salix* sp.), Horse-chestnut (*Aesculus hippocastanum*), Lime (*Tilia* sp.), White Poplar (*Populus alba*), Sycamore (*Acer pseudoplatanus*), Crab Apple (*Malus sylvestris*) and Hornbeam (*Carpinus betulus*). The understorey tended to be sparse, comprising Blackthorn (*Prunus spinosa*), Hawthorn (*Crataegus monogyna*) and Bramble (*Rubus fruticosus* agg.), with ground flora recorded comprising Common Nettle, Garlic Mustard (*Alliaria petiolata*), Ivy (*Hedera helix*), Cow Parsley (*Anthriscus sylvestris*), Cleavers (*Galium aparine*), Ground Ivy (*Glechoma hederacea*), Creeping Cinquefoil and Wood Dock (*Rumex sanguineus*).
- 3.2.8. Areas of young tree planting was recorded within Site 1 and Site 1a. Species recorded within these areas included Hawthorn, Oak, Hornbeam, Willow, Birch (*Betula* sp.), Cherry, Rowan, Hazel and Blackthorn.

Hedgerows

- 3.2.9. The majority of fields across all sites were bounded by hedgerows (UKHab code h2a), with several of the hedgerows supporting mature trees and dry ditches. Species typically recorded included Hawthorn, Blackthorn, Elm, (*Ulmus* agg.), Hazel, Ash, oak, Elder (*Sambucus nigra*), Field Maple, Rose (*Rosa* sp.), willow and Bramble. Ground flora species comprised predominantly grassland arable field margin species with additional species recorded within the ground flora and within the hedgerows included Black Bryony (*Tamus communis*), Cleavers, Honeysuckle (*Lonicera periclymenum*), Cow Parsley, Hedge Woundwort (*Stachys sylvatica*), Hop (*Humulus lupulus*), Ground Ivy, Bluebell (*Hyacinthoides non-scripta*), Dog's Mercury (*Mercurialis perennis*), Ivy, Bittersweet (*Solanum dulcamara*), Garlic Mustard, Oxeye Daisy (*Leucanthemum vulgare*), Common Knapweed (*Centaurea nigra*), Barren Brome (*Anisantha sterilis*), Hedge Bedstraw (*Galium album*), Meadowsweet (*Filipendula ulmaria*), Hemlock (*Conium maculatum*), Cowslip (*Primula veris*), Lords-and-Ladies (*Arum maculatum*), Wood Avens (*Geum urbanum*), Burdock (*Arctium* sp.), Spear Thistle (*Cirsium vulgare*) and Willowherb.

Rural Trees and Lines of Trees

- 3.2.10. Several individual mature rural trees and lines of trees were recorded across the Site Boundary, and comprised species including Pedunculate Oak, Ash, Willow, Field Maple, Elm and non-native conifer species.

Scrub

- 3.2.11. Small amount of mixed scrub habitat (UKHab code h3h) was recorded with Site 1, Site 2 and Site 3, typically surrounding ponds and along field edges. Species recorded comprised Blackthorn, Hawthorn, Oak, Crab Apple, Bramble and Rose.

Waterbodies

- 3.2.12. A number of ponds and ditches were recorded within the Site Boundary, including several that at the time of survey were dry. Aquatic vegetation recorded within the ponds included Branched Bur-reed (*Sparganium erectum*), Spike rush (*Eleocharis* sp.), Fool's-water-cress (*Apium nodiflorum*), Soft-rush, Pendulous Sedge (*Carex pendula*), Bulrush (*Typhoa latifolia*) and Broad-leaved Pondweed (*Potamogeton natans*).

Watercourses

- 3.2.13. The Claydon Brook was recorded along the northern boundary of Site 3, with a tributary branch located along the eastern boundary of Site 3. The watercourse held water at the time of survey within the Claydon Brook section, with only sections of the tributary holding water in some locations. The channel was choked with terrestrial and aquatic vegetation, in some locations with steep banks with dense woodland and scrub vegetation.

Cropland

- 3.2.14. Within Site 1, Site 1a and Site 2 and south of Site 3, the majority of the fields comprised of arable cropland cereal crop (UKHab code c1c), with a few fields comprising non-cereal crops (UKHab code c1d). The majority of these fields comprised Wheat (*Triticum* sp.), with Oat (*Avena* sp.), Maize (*Zea mays*) and recently ploughed fields also recorded.

Built-up areas

- 3.2.15. Within the Site Boundary were several access tracks (UKHab code u1c) and buildings (UKHab code u1b5).

Hedgerow Regulations

- 3.2.16. A total of 148 hedgerows were recorded on site, with 36 identified as ‘important’ under the Wildlife and Landscape Criteria of the Hedgerow Regulations 1997. Their locations are shown on **Figure 4**, with descriptions provided in **Appendix E**.

Notable arable weeds

- 3.2.17. All fields, where accessible, in Area 3 were surveyed on 28th June 2023. In this area active management to control arable weeds was very much apparent. Crop margins were found to have been sprayed with herbicides, preventing growth of arable weeds immediately adjacent to the crop. In other instances, the crop was growing up to the hedgerow boundary with no space for arable weeds to grow or there was a wide grass margin between the crop and the hedgerow boundary – again reducing the potential for arable weeds to be present. The crop itself was clean of weeds and the previous years' plants with no visible areas of crop failure. Common and widespread arable weed species were recorded in association with patches of sprayed bare ground and the adjacent hedgerows.
- 3.2.18. Similarly, the field margins in Area 2 were mostly sprayed with herbicides to the edge of the crop or the crop grew up to hedgerow boundaries. However, some fields had wider grassy margins and areas where the crop had failed, primarily in corners of fields or where farmland machinery tracks had been created, in which common arable weeds / vegetation were coming through. Though Area 2 was the most interesting in terms of arable weed presence, species recorded were sparsely distributed and of limited abundance and comprised common and widespread plants in the UK.
- 3.2.19. All surveyed fields in Area 1 had seeded grass margins with meadow-grasses and various common wildflowers such as knapweed & oxeye daisy. The grasses present were dominant and likely preventing growth of arable weeds as they grew right up to the edge of the crop. Again, the crop appeared clean, and no notable or rare arable weeds were recorded as present in this Area.
- 3.2.20. A list of plant species recorded as present across all three areas on Site during the survey can be found below. None of these species are categorised as rare or notable species and were scarcely distributed around the grassy or sprayed margins of the fields.
- Black Bryony
 - Bristly Oxtongue
 - Common Orache (*Atriplex patula*)
 - Creeping Cinquefoil
 - Cut-leaved Crane’s-bill (*Geranium dissectum*)
 - Field Bindweed (*Convolvulus arvensis*)
 - Field Forget-me-not (*Mytilis arvensis*)
 - Fool’s Parsley (*Aethusa cynapium*)
 - Hoary Ragwort (*Jacobaea erucifolia*)
 - Lesser Swine-cress (*Lepidium didymum*)

- Perennial Sow Thistle (*Sonchus arvensis*)
- Redshank
- Scarlet Pimpernel (*Anagallis arvensis*)
- Selfheal (*Prunella vulgaris*)
- Scented Mayweed (*Matricaria chamomilla*)
- Shepherd's Purse (*Capsella bursa-pastoris*)
- White Dead-nettle (*Lamium album*)

3.2.21. All the above species are common and widespread in the UK and no scarce or notable arable weed species were recorded. The arable crops were clean of weed species and margins managed in such a way as to effectively control arable weeds. It is considered that rare or notable arable weeds are highly unlikely to be present.

Invasive Non-native Species

3.2.22. The BDS identified several INNS within 2 km of the Site Boundary including Indian Balsam (*Impatiens glandulifera*), Canadian Waterweed (*Elodea canadensis*), Variegated Yellow Archangel (*Lamiastrum galeobdolon subsp. argentatum*) and Wall Cotoneaster (*Cotoneaster horizontalis*), however none were located within the Site Boundary. The BDS also identified several INNS animal species within 2km of the Site Boundary including mandarin duck (*Aix galericulata*), ruddy duck (*Tadorna ferruginea*), barnacle goose (*Branta leucopsis*), bar-headed goose (*Anser indicus*), Canada goose (*Branta canadensis*), snow goose (*Anser caerulescens*), ring-necked parakeet (*Psittacula krameri*), black swan (*Cygnus atratus*), zander (*Stizostedion lucioperca*), wels catfish (*Silurus glanis*), chinese water deer (*Hydropotes inermis*) and American mink (*Mustela vison*), however none were located within the Site Boundary. During the surveys undertaken no evidence of INNS was identified within the Site Boundary.

3.3. Protected and notable animals

3.3.1. **Figure 5** shows the location of the target notes referred to in the text below, which show the location of particular features with suitability for protected and notable animals. A full description for each of the target notes is given in **Appendix D**.

Invertebrates

3.3.2. The BDS identified 143 records of protected or otherwise notable invertebrates within 2 km of the site. Of particular note are black hairstreak (*Satyrrium pruni*), wood white (*Leptidea sinapis*) and white admiral (*Limenitis camilla*), species that are included within the citations for Sheepphouse Wood SSSI and Finemere Wood SSSI.

3.3.3. On site, the majority of the habitats present were considered likely to support a common assemblage of invertebrate species, typical of arable field margins, hedgerows, woodland and scrub and grassland habitats, however the food source for black hairstreak caterpillar, Blackthorn, was recorded abundantly across the site within hedgerows and woodland areas. Areas of standing and fallen deadwood were also noted (Target notes 28, 38, 47, 51, 56, 59, 65, 70 and 72).

- 3.3.4. Species observed during the survey included cinnabar moth (*Tyria jacobaeae*), Marbled white (*Melanargia galathea*), meadow brown (*Maniola jurtina*), ringlet (*Aphantopus hyperantus*), comma (*Polygonia c-album*), gatekeeper (*Pyronia tithonus*), small heath (*Coenonympha pamphilus*), large white (*Pieris brassicae*), small skipper (*Thymelicus sylvestris*), small tortoiseshell (*Aglais urticae*), large skipper (*Ochlodes sylvanus*) and purple hairstreak (*Favonius quercus*) (Target notes 34-37, 43, 62, 63, 67 and 73). Several yellow meadow ant (*Lasius flavus*) hills were also recorded within the Site Boundary (Target notes 9 and 44).

Fish

- 3.3.5. The BDS identified records of five fish species within 2 km of the site including spined loach (*Cobitis taenia*) a species listed under Section 41 of the NERC Act 2006, bullhead (*Cottus gobio*), common carp (*Cyprinus carpio*) and the INNS wels catfish and zander.
- 3.3.6. The Claydon Brook along with several larger waterbodies were considered to provide suitable habitat for supporting fish species.

Great crested newts

- 3.3.7. The BDS identified records of great crested newt within 2 km of the Site Boundary, however no records were located within the Site Boundary. A total of eight great crested newt class survey license returns between 2016-2017 were identified within Site 1. The BDS also identified records of common toad (*Bufo bufo*), common frog (*Rana temporaria*), palmate newt (*Lissotriton helveticus*) and smooth newt (*Lissotriton vulgaris*) within 2 km of the Site Boundary, however no records were located within the Site Boundary.
- 3.3.8. A review of previous reports of HSI and eDNA surveys undertaken identified multiple ponds within the site boundary and up to 500 m from the Site Boundary as supporting great crested newts or having suitability to support this species.
- 3.3.9. During the survey several waterbodies were recorded, whilst some were considered sub-optimal to support great crested newts due to likely supporting fish or being largely dry at the time of survey, several were considered suitable to support breeding populations of great crested newt as well as other amphibian species.
- 3.3.10. The areas of woodland, grassland margins and hedgerows were considered suitable to provide foraging, refuge and hibernation opportunities for amphibian species, including great crested newts.

Reptiles

- 3.3.11. The BDS identified records of grass snake and common lizard, and slow-worm within 2 km of the Site however no records were identified within the Site Boundary.
- 3.3.12. Within the site, most of the land comprised arable and modified grassland fields, which are considered sub-optimal to support reptiles; however, smaller areas of rough grassland and scrub habitats were considered suitable sheltering and foraging habitat to support common reptile species however these were limited in extent.

Birds

- 3.3.13. The BDS identified records of 147 priority bird species within 2 km of the Site (red and amber list species included on the BOCC, UK priority species under NERC Act 2006 and Schedule 1 of the WCA 1981). Whilst no records are located within the Site Boundary multiple records were identified adjacent to the Site predominantly within the areas of woodland located adjacent to the Site Boundary.
- 3.3.14. A review of previous reports identified a total of 59 bird species recorded during wintering bird surveys for the Site between October 2021 and March 2022. Of these 59 bird species, 34 species met at least one of a range of criteria relating to conservation importance including species listed on Schedule 1 of the WCA 1981 such as little egret (*Egretta garzetta*), red kite (*Milvus milvus*), golden plover (*Pluvialis apricari*), peregrine (*Falco peregrinus*), fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*). Initial wintering bird surveys have identified species diversity for the Site is of county importance and, individually, Sites 1 and 2 support an assemblage of wintering birds which may be of importance at a district level. However, individually, species diversity at Sites 1a and 3 are only of local importance. Species populations are of Local importance within the Site, with the exception of snipe (*Gallinago gallinago*) (which occurs in numbers of County importance).
- 3.3.15. A total of 57 species (including species listed on Schedule 1 of the WCA and Annex 1 of the EU Birds Directive) were recorded during surveys of breeding birds between March and June 2022. Of the 57 species recorded within the survey area, territories of 39 species were confirmed and territories of a further ten species were considered to be probable or possible within the survey area, resulting in a breeding bird assemblage of 49 species. Species recorded breeding within the Site included species listed on Schedule 1 of the WCA 1981 such as red kite, hobby (*Falco subbuteo*), with barn owl (*Tyto alba*) considered to be possibly breeding. A number of trees across the Site were also identified as suitable nesting habitat for barn owl.
- 3.3.16. During the 2023 surveys a number of species were recorded within the arable fields including yellowhammer (*Emberiza citrinella*), skylark (*Alauda arvensis*), yellow wagtail (*Motacilla flava*), reed bunting (*Emberiza schoeniclus*), linnet (*Carduelis Cannabina*), lesser whitethroat (*Sylvia curruca*), dunnock (*Prunella Modularis*), house sparrow (*Passer domesticus*), robin (*Erithacus rubecula*), swallow (*Hirundo rustica*) and swift (*Apus Apus*). Within more woodland/scrub habitat species recorded included blackcap (*Sylvia atricapilla*), chiffchaff (*Phylloscopus collybita*), chaffinch (*Fringilla Coelebs*), greenfinch (*Chloris chloris*), blue tit (*Cyanistes caeruleus*), great tit (*Parus major*), song thrush (*Turdus philomelos*) and great spotted woodpecker (*Dendrocopos major*). Foraging raptors were also recorded frequently across the Site including red kite and buzzard (*Buteo buteo*).
- 3.3.17. The areas of woodland and hedgerow within the Site were assessed as suitable for providing foraging and breeding opportunities for a range of breeding birds, in particular passerine species. The areas of grassland and arable field margins were considered suitable habitat for ground nesting species such as skylark and lapwing (*Vanellus vanellus*).

Bats

- 3.3.18. The BDS returned multiple records of roosts, foraging and commuting activity for 17 bat species/groups within 2 km of the Site Boundary comprising Bechstein's bat (*Myotis bechsteini*), Brandt's bat (*Myotis brandtii*), serotine (*Eptesicus serotinus*), Leisler's bat (*Nyctalus leisleri*), noctule bat (*Nyctalus noctule*), Daubenton's bat (*Myotis daubentonii*), whiskered bat (*Myotis mystacinus*), whiskered/Brandt's bat (*Myotis mystacinus/brandtii*), Natterer's bat (*Myotis nattereri*), myotis species (*Myotis* sp.), western barbastelle (*Barbastella barbastellus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius's pipistrelle (*Pipistrellus nathusii*), pipistrelle species (*Pipistrellus* sp.), brown long-eared bat (*Plecotus auritus*) and unidentified bat species (*Chiroptera*). Whilst no records were identified within the Site Boundary high concentrations of records were located within the woodland blocks located adjacent to the Site Boundary including multiple records of Bechstein's bats located within Finemere Wood, Sheephouse Wood, Hone Wood, Shrubs Wood and Decoypond Wood.
- 3.3.19. A review of previous reports identified multiple trees within the Site Boundary as having potential to support roosting bats including trees with high and moderate potential.
- 3.3.20. During the survey multiple of trees and woodland blocks were assessed as having potential to support roosting bats (Target notes 3, 5-8, 10-13, 16, 21-24, 27, 30-33, 39, 42, 45, 47-54, 57, 60, 64-66, 69-61, 74 and 75) and an old barn (Target note 41). The arable and modified grassland fields were assessed to be of limited value to foraging bats; however, the hedgerows, field margins, woodland and pond habitats were assessed as offering suitable foraging and commuting habitat.

Dormice

- 3.3.21. The BDS identified no records of hazel dormouse within 2 km of the Site Boundary.
- 3.3.22. The areas of woodland within the Site were considered sub-optimal to support dormice, given that the majority of the woodland areas had a lack of diverse and dense understorey and limited amounts of Hazel (although other species used by dormice, including oak, Bramble, Ash, birch, and Hawthorn, were recorded). The hedgerows within the Site were considered suitable provide suitable habitat for dormice and provide connectivity to the wider landscape.

Water voles and otters

- 3.3.23. The BDS identified records of otter and water vole within 2 km of the Site Boundary, however no records were located within the Site Boundary.
- 3.3.24. At the time of survey no signs of water voles were observed, the majority of watercourses and ditches present on Site were dry and lacked substrate suitable for burrowing and emergent vegetation for foraging.
- 3.3.25. The Claydon Brook was considered suitable to provide commuting and foraging opportunities for otter whilst woodland habitat could provide suitable resting or lying up opportunities.

Badgers

- 3.3.26. The BDS identified multiple records of badger within 2 km of the Site Boundary including a record of a badger sett located within the Site Boundary.
- 3.3.27. [REDACTED]
- 3.3.28. Habitats on Site were noted as being potentially suitable for this species, comprising grassland, scrub, and woodland, which together provides suitable foraging and resting opportunities for badgers, several badger setts were identified during the survey and multiple badger latrines and mammal paths were recorded throughout the Site Boundary (Target notes 1, 2, 4, 14, 17, 18, 26 and 55).

Other species

- 3.3.29. The BDS identified records of polecat (*Mustela putorius*), brown hare (*Lepus europaeus*), European hedgehog (*Erinaceus europaeus*) and harvest mouse (*Micromys minutus*).
- 3.3.30. During the survey several brown hares and roe deer (*Capreolus capreolus*) were noted within arable field areas (Target notes 20 and 58).
- 3.3.31. Habitats within the Site, including woodland, hedgerows and grassland, were considered suitable for European hedgehog. Hedgehogs occupy a range of lowland habitats with enough cover to allow nesting. The areas of woodland, hedgerows and grassland within the Site provide suitable foraging habitat for European hedgehogs, with the hedgerows providing connectivity to suitable habitat in the wider landscape, however no evidence of European Hedgehog was noted during surveys.
- 3.3.32. Polecat favour a range of habitat types including woodland and farmland habitats; these are present abundantly within the Site, however no evidence of polecat was noted during surveys.
- 3.3.33. Habitats suitable to support harvest mouse present within the Site included the hedgerows, and areas of grassland around the arable field margins, however no evidence of harvest mouse was noted during surveys.

4. Evaluation

4.1. Internationally Designated Sites

- 4.1.1. SACs and SPAs are part of the 'national site network' and are afforded protection under the provisions of The Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') or their equivalents in the devolved administrations (refer to **Appendix A**). These sites are designated as being of international importance for ecology and nature conservation. Furthermore, Ramsar sites are also of international importance, being wetlands that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types or for their importance in conserving biological diversity (see **Appendix A**).
- 4.1.2. There are no internationally designated sites located within 10 km of the proposed development boundary. Furthermore, there are no potential impact pathways identified due to the distance from the proposed development site, the nature of the habitats present within the Site and the scale and nature of the proposed development works.
- 4.1.3. Given the reasons outlined above, no significant adverse effects are anticipated on any of the internationally designated sites, all of which fall outside of the zone of influence of the proposed development, and they are therefore not considered further.

4.2. Sites of Special Scientific Interest

- 4.2.1. Recent discussions with Natural England have indicated the citation features of Sheepphouse Wood SSSI and Finemere Wood SSSI will be updated to include Bechstein's bat. Further assessment and consultation with Natural England is ongoing to assess the potential for the Proposed Development to impact the interest features of the SSSIs and the integrity of the sites.

4.3. Non-statutory designated sites

- 4.3.1. The Site Boundary overlaps the Bernwood BOA, there are also five non-statutory designated site located adjacent to the Site Boundary. Loss or damage to these sites would have significance in nature conservation terms, at least in the local and potentially regional context and would therefore require a robust mitigation strategy to address any potential impacts in accordance with local policy, in addition to national policy and legislation.
- 4.3.2. There are also a further 17 non-statutory designated site within 2 km of the Site Boundary. Impacts resulting from the proposed development (such as construction traffic increasing dust, or pollution impacts) could affect these sites, therefore measures would need to be taken into consideration when planning construction activities to minimise the risk of impacts to the sites and protect the integrity of the sites.

4.4. Habitats and plants

- 4.4.1. The majority of the habitat present within the Site comprises arable fields which are common and widespread in the surrounding landscape. However, hedgerows, arable field margins, lowland mixed deciduous woodland, ponds and rivers and streams all qualify as local BAP priority habitats and/or habitats of principal importance (being listed under Section 41 of the NERC Act 2006) and are likely collectively to be of at least county value when considered in isolation from fauna interest. The linear habitats such as hedgerows also provide connectivity across the Site and to the wider landscape.
- 4.4.2. These habitats have also been assessed as known and/or suitable to support protected, notable and local priority species for nature conservation, including terrestrial invertebrates, great crested newt, common reptile species, breeding birds, wintering birds, bats, water vole, otter, badger, European hedgehog, brown hare, harvest mouse and polecat. The Site is therefore considered to be of national importance for bat and invertebrate assemblages, and at least of county value for other fauna species.
- 4.4.3. Loss of these habitats would also result in a loss of suitable resting, foraging and breeding habitats and ultimately potential loss of these species. These habitats should be a focus for protection and enhancement for ecological purposes and for achieving biodiversity net gain as a result of proposed development works. This will ensure maximum connectivity across the Site is maintained, allowing species to continue to move across the Site and avoiding habitat fragmentation.

4.5. Terrestrial and Aquatic Invertebrates

- 4.5.1. Several areas of the Site have been assessed as suitable to support notable invertebrate assemblages. Should any works impact these habitats then further targeted surveys would be required.

4.6. Great Crested Newt

- 4.6.1. Habitats within the Site Boundary and surrounding areas are suitable for supporting great crested newts. Great crested newts have been confirmed as present within the Site Boundary and within 500 m of the Site Boundary. Great crested newts are a European protected species and are afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended) as well as the Wildlife and Countryside Act 1981 (as amended) (refer to **Appendix A** for further details). It is therefore likely that the proposed development could affect great crested newts, and further surveys would be required to confirm this.

4.7. Reptiles

- 4.7.1. The Site provides suitable habitat for common reptile species however this is limited in extent. All species of reptiles in the UK are afforded protection through domestic legislation (refer to **Appendix A**) and precautionary measures are required during construction to prevent the killing or injuring reptiles. Clearance of vegetation suitable to support reptiles should be undertaken following a method statement. Habitat manipulation and the displacement of reptiles into suitable adjacent habitat is recommended. This should include a two-stage strimming

method supervised by a suitably experienced ecologist, and should take place between the months of April and September (inclusive).

4.8. Birds

- 4.8.1. The woodland, hedgerow, scrub and arable field habitats within the Site have been considered suitable to support breeding birds, including species listed on the red and amber BoCC list.
- 4.8.2. Initial wintering bird surveys have identified species diversity for the Site is of county importance and, individually, Sites 1 and 2 support an assemblage of wintering birds which may be of importance at a district level. However, individually, species diversity at Sites 1a and 3 are only of local importance. With the exception of snipe (which occurs in numbers of county importance), species populations are of local importance within the Site. However, the species diversity is of county importance, based on the number of species recorded. The Proposed Development could lead to habitat alteration or loss, habitat fragmentation, and disturbance or displacement of species during construction, operation, and maintenance activity.
- 4.8.3. Calvert Jubilee WTR is located 380 west of the Site 1 boundary, the Site is known to support a range of wintering wildfowl species. Research has alleged that wildfowl species can potentially be negatively impacted by solar developments through the mistaking of large expanse of panels for open water, although actual evidence is lacking³.
- 4.8.4. In order to identify the importance of the bird assemblage within the site, and to determine the likely impacts and mitigation requirements for the proposed development, it is recommended that further surveys for breeding birds should be carried out (between the months of March and July inclusive), with wintering bird surveys carried out between the months of November and February inclusive.
- 4.8.5. Should birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) be found nesting within the site, mitigation may be required to safeguard them and prevent their breeding sites from being disturbed by the proposed development.
- 4.8.6. Red kites and barn owl are protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (see **Appendix A**). Further surveys are required to ascertain whether there is an active nest site of either species in proximity to the Site and, if so, any mitigation that might be required during construction.

4.9. Bats

- 4.9.1. Multiple trees and woodland blocks within and adjacent to the Site are considered suitable to support roosting bats. Bats are protected under the Habitats Regulations and the Wildlife and Countryside Act 1981 (as amended) (see **Appendix A**). Should the proposed development works impact these features further surveys will be required to identify if any bats are roosting in these structures, and if so, the mitigation measures that might be required as part of the

³ Natural England (2017) *Evidence review of the impact of solar farms on birds, bats and general ecology (NEER012)*

design proposals. If bats are found, the removal of trees would need to be undertaken under license, and there may be restrictions on timing dependent on the status of any roost.

- 4.9.2. The proposed Development Site includes a significant number of hedgerows and arable field margins and is bounded by large woodland areas which are highly suitable foraging and commuting along with, watercourses and larger waterbodies. Further surveys would be required to assess the level of importance of these features to foraging bats and inform mitigation measures that might be required as part of the design proposals.

4.10. Dormice

- 4.10.1. Dormice are a European protected species and are afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended) as well as the Wildlife and Countryside Act 1981 (as amended) (refer to **Appendix A** for further details). The areas of woodland within the Site are considered sub-optimal, however the hedgerows within the Site are considered suitable to support this species and provide connectivity to suitable habitat in the wider landscape. However, given the lack of records of this species in the area it is considered unlikely that this species would be present within the Site Boundary.

4.11. Water Vole and Otter

- 4.11.1. Water voles and otters are protected species in the UK (see **Appendix A**). Water vole are considered unlikely to be present within the Site Boundary due to the lack of suitable habitat.
- 4.11.2. Otter may be present within the waterbodies and watercourses on site. Should habitat suitable to support this species be impacted by the proposed development, further surveys would be required to ascertain whether these species are present and, if they are, the mitigation measures that would be required.

4.12. Badger

- 4.12.1. Further surveys are required to identify all badger setts within the Site and within 30 m of the Site Boundary. If any of the main setts are likely to be directly affected, then additional surveys may be required.

4.13. Other Notable Species

- 4.13.1. The Site provides suitable habitat for European hedgehog, brown hare and polecat and harvest mouse and it is well connected to other suitable habitat in the wider area.
- 4.13.2. Precautionary measures are therefore also likely to be required during the works to prevent any negative impacts to these species.

4.14. Validity of Data

- 4.14.1. Unless the Site changes significantly, the surveys carried out for this report should remain valid for at least 18 months, and potentially up to 3 years (CIEEM 2019).

5. Recommendations

5.1. Key constraints to design and construction

- 5.1.1. The proposed development has the potential to cause indirect impacts to statutory designated sites, which may have implications to the design of the proposed development, and this will be fully assessed within Environmental Statement (ES).
- 5.1.2. Eight LWS's are present adjacent to the proposed development boundary, along with multiple areas of ancient woodland. There is potential for the proposed development to have impacts to these sites.
- 5.1.3. The majority of habitats present within proposed development parcels are considered of low ecological value (arable and modified grassland fields); however the proposed development could lead to direct and indirect impacts to hedgerows, woodland, arable field margins, ponds and scrub habitat.
- 5.1.4. Species which could present potential constraints to the proposed development include the following:
- Terrestrial invertebrates;
 - Great crested newt;
 - Breeding birds;
 - Wintering birds;
 - Bats;
 - Otter; and
 - Badger

5.2. Further surveys required

- 5.2.1. Recommended further surveys are outlined below. Given that many surveys can only be carried out at certain times of the year, it would be prudent to undertake these further surveys as soon as possible (unless it can be foreseen that it would make them out-of-date by the time of the application).
- 5.2.2. The requirement for some of the surveys will be informed by detailed design.

Great crested newts

- 5.2.3. Population size-class assessments may be required to confirm the mitigation requirements and inform a European Protected Species Mitigation License (EPSML) application. An alternative would be to submit an application for a District Level License which would remove the requirement for additional survey work pertaining to great crested newts.
- 5.2.4. If required, population size-class surveys should be undertaken according to the Great Crested Newt Mitigation Guidelines (English Nature, 2001). This would comprise up to six visits in suitably clement weather between mid-March and mid-June, with at least two visits being between mid-April and mid-May. A combination of egg search, torch survey and (if acceptable after taking account of great crested newt welfare) bottle trapping methods should be used, subject to any constraints

set by the pond (for example, limited access to the water restricts all three methods).

Breeding birds

- 5.2.5. In order to identify the importance of the bird assemblage within the site, and to determine the likely impacts and mitigation requirements for the proposed development, it is recommended that further surveys for breeding birds should be carried out between the months of March and August inclusive to identify the importance of the bird assemblage within the Site and determine the likely impacts and mitigation requirements for the proposed development. Should birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) be found using the site, mitigation may be required to safeguard them and prevent their breeding sites from being disturbed or destroyed by the proposed development.
- 5.2.6. During these surveys the assessment will also consider whether active red kite and barn owl nests are present within or adjacent to the Site. The surveys should be undertaken in accordance with the recommended methodology outlined for this species in Gilbert *et al.* (1998), with up to three visits to the suspected nest Site undertaken between February and August, to confirm occupation.

Wintering Birds

- 5.2.7. In order to identify the importance of the wintering bird assemblage within the site, and to determine the likely impacts and mitigation requirements for the proposed development, it is recommended that further surveys for wintering birds should be carried out between the months of November and February inclusive to identify the importance of the bird assemblage within the Site and determine the likely impacts and mitigation requirements for the proposed development.

Bats

- 5.2.8. A number of trees were assessed as suitable to support roosting bats. If trees are required to be removed to facilitate the proposed development, further surveys will be required. This will be necessary to inform an assessment of likely impacts and mitigation requirements for the proposed development. These checks should involve the aerial inspection of any suitable features using tree climbing techniques and an endoscope, to look for bats or evidence of bats. If, on inspection a feature is identified as having moderate or high potential for roosting bats then further surveys will be necessary. If features are found to have low potential the tree can be felled under precautionary measures (Collins, 2016). If tree climbing is not possible, emergence surveys will be required, the scope of which will be dependent on the value of each feature.
- 5.2.9. The Site was assessed as having potential for foraging and commuting bats, therefore further surveys are required to identify the value and nature of use by bats, and the level of mitigation required. Bat static detector surveys have been conducted at the Site in 2023 in targeted key areas of the Site through the active season (April-October) to indicate the species bats using the Site for foraging and commuting, and activity levels. Further bat activity transect surveys may be required in 2024.

Otters

- 5.2.10. Habitat within the Site Boundary has been assessed as suitable to support otter, therefore further surveys will be required if the proposed development will be likely to impact the watercourses. These should be completed in spring and/or autumn to check for signs of and otters and confirm the presence or likely absence of these species. If features such as potential otter holts are identified, these should be protected during the works. Targeted mitigation will be required if impacts on such features cannot be avoided.

Badgers

- 5.2.11. An updated badger survey should be undertaken in advance of construction to confirm that there are no setts that could be disturbed by the works (the timescale will depend on the season in which works start) and ensure compliance with relevant legislation.
- 5.2.12. If a sett requires removal, a licence will be required from Natural England to exclude badgers before it can be removed; removal can only be undertaken between 1 July and 30 November inclusive. A licence would also be required for setts subject to disturbance but not removal.
- 5.2.13. If setts are likely to require closure, further surveys will be required to monitor the activity of the setts and to understand the territorial boundaries of the social group, in order to identify a potential mitigation plan for the proposed development.

5.3. Mitigation requirements

- 5.3.1. Specific mitigation requirements will be required to be developed once further targeted surveys have been undertaken and development proposals have been finalised. These measures will be included within the Environmental Impact Assessment and subsequent ES into the development proposals.

5.4. Opportunities for enhancement

- 5.4.1. The Environment Act 2021 mandates a statutory requirement for developments to deliver a minimum 10% biodiversity net gain. Additionally, the National Planning Policy Framework (NPPF) also makes provisions for the delivery of Biodiversity Net Gain (BNG).
- 5.4.2. The primary aims of BNG are to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes.
- 5.4.3. Opportunities for habitat creation and enhancement within the proposed development boundary will be considered, taking into account retention of habitats and ecological features of particular value in the first instance (i.e. those where habitat loss would have significant biodiversity implications).
- 5.4.4. A further strategic assessment of the opportunities for habitat creation and enhancement in order to deliver BNG across the proposed development boundary. This will involve retaining and enhancing habitats where possible within the development parcels, combined with habitat creation in order to deliver the BNG offsetting requirements of the development and where possible deliver mitigation compensation as informed by the EIA.

6. References

- AECOM (2022), *Custodian Solar Farm Preliminary Ecological Appraisal Report*
- AECOM (2022), *Custodian Solar Farm Badger Survey Report (Confidential)*
- AECOM (2022), *Custodian Solar Farm Bat Preliminary Roost Assessment Report*
- AECOM (2022), *Custodian Solar Farm Great Crested Newt Habitat Suitability Index and eDNA Report*
- AECOM (2022), *Custodian Solar Farm Wintering Bird Survey Report*
- AECOM (2022), *Custodian Solar Farm Report on Surveys for Breeding Birds*
- Beebee, T.J.C. & Griffiths, R.A. (2000), *Amphibians and Reptiles – A Natural History of the British Herpetofauna*. HarperCollins, London.
- Buckinghamshire Council (2021), *Vale of Aylesbury Local Plan (VALP) 2013-2033*
<https://www.buckinghamshire.gov.uk/planning-and-building-control/planning-policy/local-development-plans-and-guidance/local-development-plans/>
- Buckinghamshire Council (2023), *The Local Plan for Buckinghamshire*
<https://www.buckinghamshire.gov.uk/planning-and-building-control/local-development-plans-info/buckinghamshire-local-plan/>
- Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020), *UK Habitat Classification – Habitat Definitions V1.1* at <http://ukhab.org>
- Chartered Institute of Ecology and Environmental Management (2017), *Guidelines for Preliminary Ecological Appraisal*. Technical Guidance Series, www.cieem.net/gpea.asp.
- Chartered Institute of Ecology and Environmental Management (2019), *Advice Note on the Lifespan of Ecological Reports & Surveys*. CIEEM, Winchester, Hampshire.
- Cherrill, A. & McClean, C. (1999), Between-observer variation in the application of a standard method of habitat mapping by environmental consultants in the UK. *Journal of Applied Ecology*, **36**, 989-1000.
- Collins, J. (2016), *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition). The Bat Conservation Trust, London.
- Edwards J, Knight M, Taylor S & Crosher I. E (2020), *Habitat Networks Maps, User Guidance v.2*. Natural England publication.
- English Nature (2001), *Great Crested Newt Mitigation Guidelines*. English Nature.
- Gilbert, G., Gibbons, D. W., & Evans, J. (1998), *Bird Monitoring Methods: A Manual of Techniques for Key UK Species*. RSPB, Sandy, Bedfordshire.
- Institute of Environmental Assessment (1995), *Guidelines for Baseline Ecological Assessment*. Spon, London.
- Jones, J. (2000), *Impact of Lighting on Bats*. Bat Conservation Trust, London.
- MAGIC gov.uk. - interactive mapping tool run by Natural England [Accessed 21 June 2023].
- Natural England (1986), *Sheephouse Wood Site of Special Scientific Interest Citation*. Available at:
<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001671.pdf>

Natural England (1990), *Finemere Wood Site of Special Scientific Interest Citation*. Available at: <https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1005592.pdf>

Natural England (1984), *Grendon and Doddershall Woods Site of Special Scientific Interest Citation*. Available at:

<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1001328.pdf>

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000), *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4): 143-155.

Poland, J. and Clement, E. (2020), *The vegetative key to the British flora* Second Edition. John Poland, Southampton.

PTES (2019), *Hedgehog ecology and land management*. People's Trust for Endangered Species & British Hedgehog Preservation Society.

Rackham, Oliver (1986), *The History of the Countryside*. J.M. Dent, London.

Radcliffe, Derek (1977), *A Nature Conservation Review* (two volumes). Cambridge University Press, Cambridge.

RSPB (2010), *Wild birds and the law, England and Wales*. RSPB

Usher (1986), *Wildlife conservation evaluation*. Chapman & Hall, London and New York.

Stace, C.A. (2019), *A New Flora of the British Isles* (4th edition). C & M Floristics, Middlewich Green.

Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021), *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.].

The Buckinghamshire & Milton Keynes Natural Environment Partnership (2023), *Forward to 2030: Biodiversity Action Plan*. Available at:

<https://bucksmknep.co.uk/download/3338/?tmstv=1692281173>

7. Figures

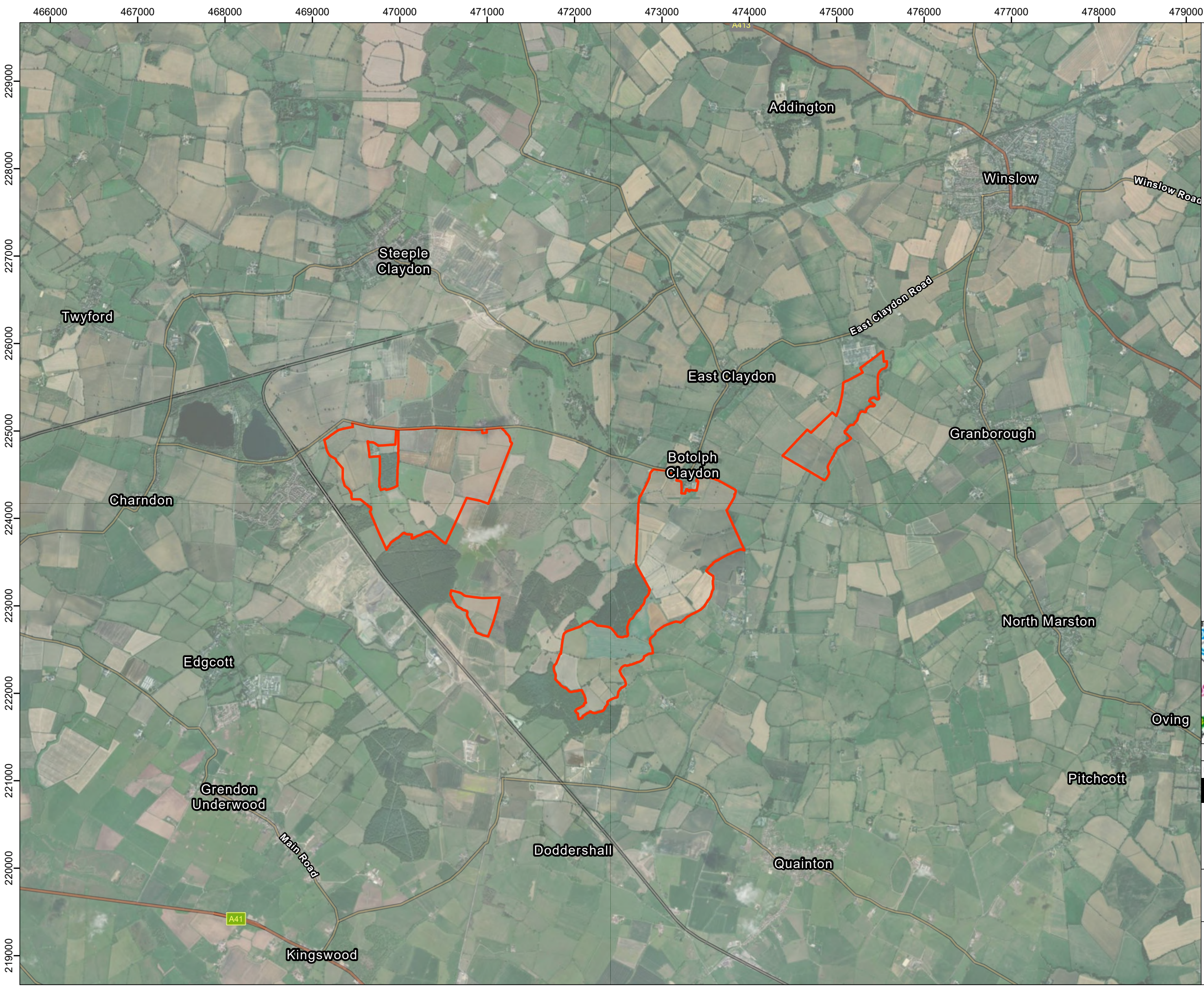
Figure 1 - Site Location Plan

Figure 2 – Designated sites map

Figure 3 – UK Habitat Map

Figure 4 – Hedgerow regulation survey results

Figure 5 – Target Notes



Legend:
 Site Boundary

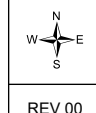
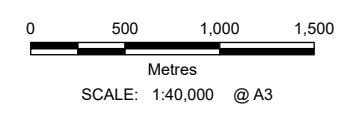


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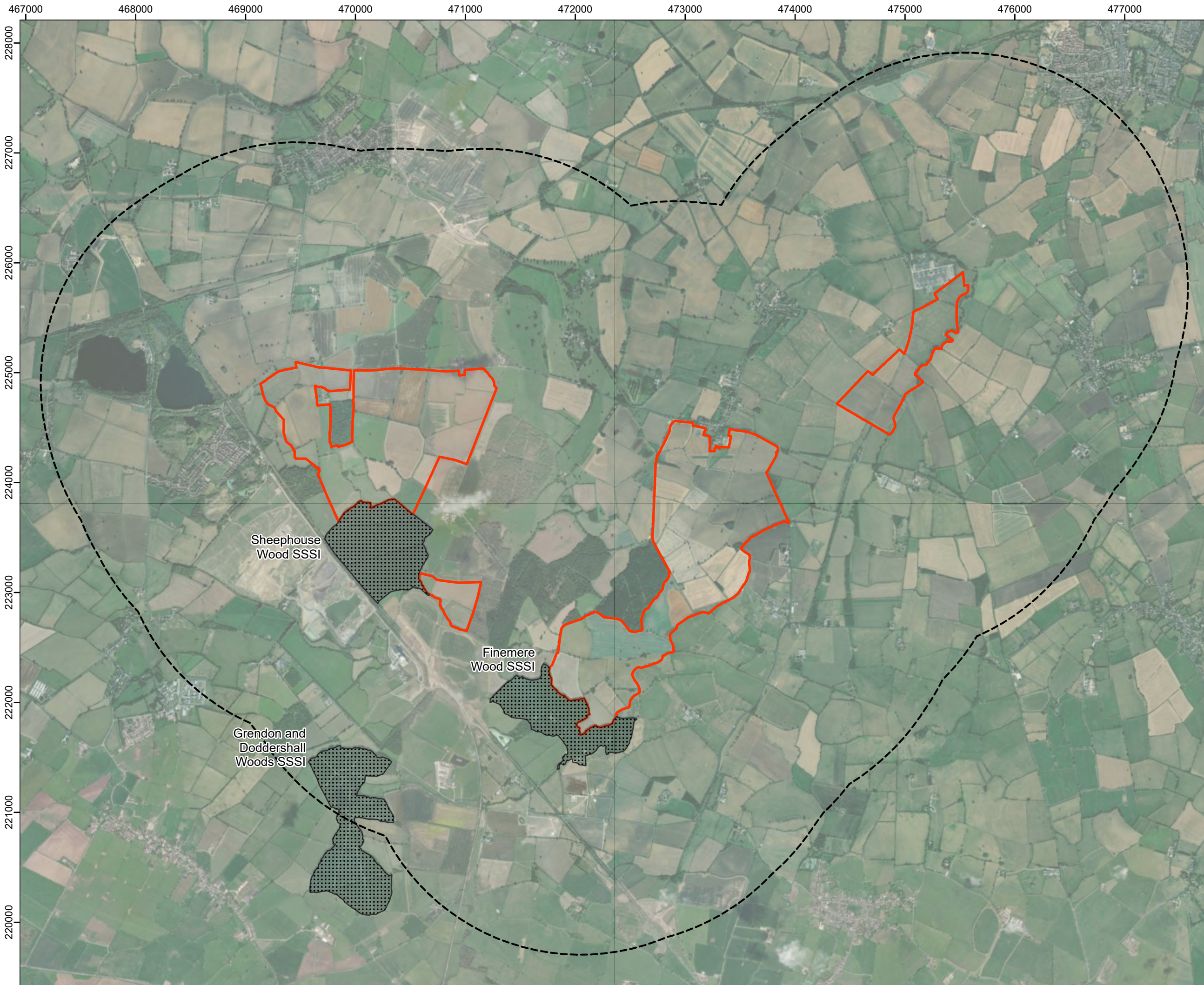
Rosefield Solar Farm



TITLE: Figure 1:
 Site Location Plan



REV 00



- Legend:**
- Site Boundary
 - 2km Buffer
 - Sites of Special Scientific Interest (SSSI)



Rev	Date	Description	Drn	Chk	App
00	07/11/2023	2485353	EC	RS	PT

Rosefield Solar Farm

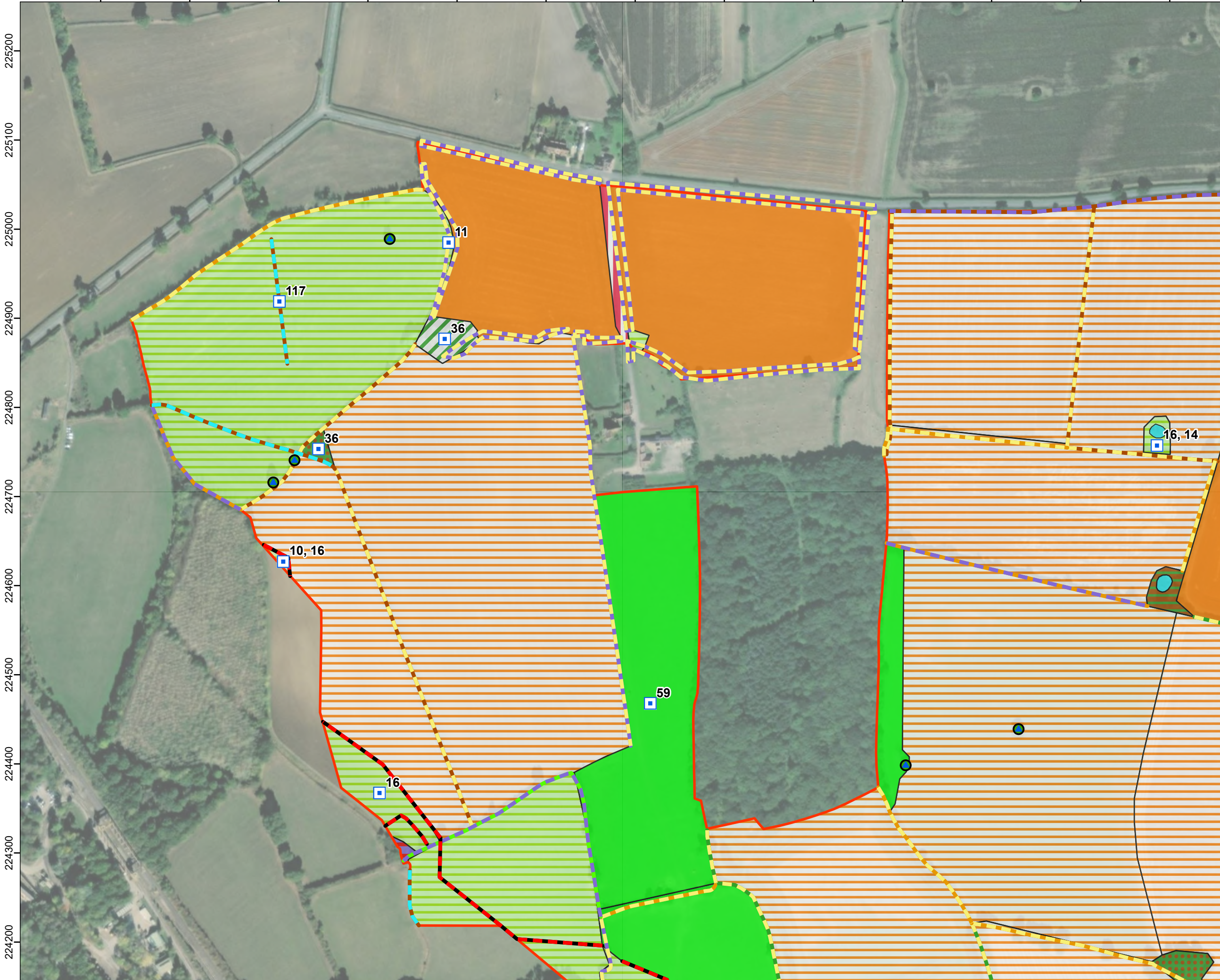


TITLE: Figure 2:
Designated Sites Within 2km of the Site Boundary

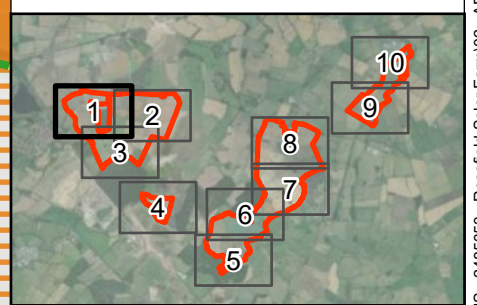
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REV 00

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- Legend:**
- Site Boundary
 - UKHab Classification
 - Cropland
 - Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Mixed Scrub
 - Ponds (Non-Priority Habitat)
 - Developed Land; Sealed Surface
 - Broadleaved, Mixed and Yew Woodland
 - Lowland Mixed Deciduous Woodland
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Ditches
 - Fence
 - Rural Tree
 - Secondary Codes

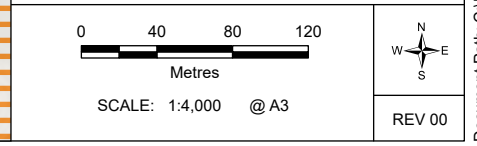


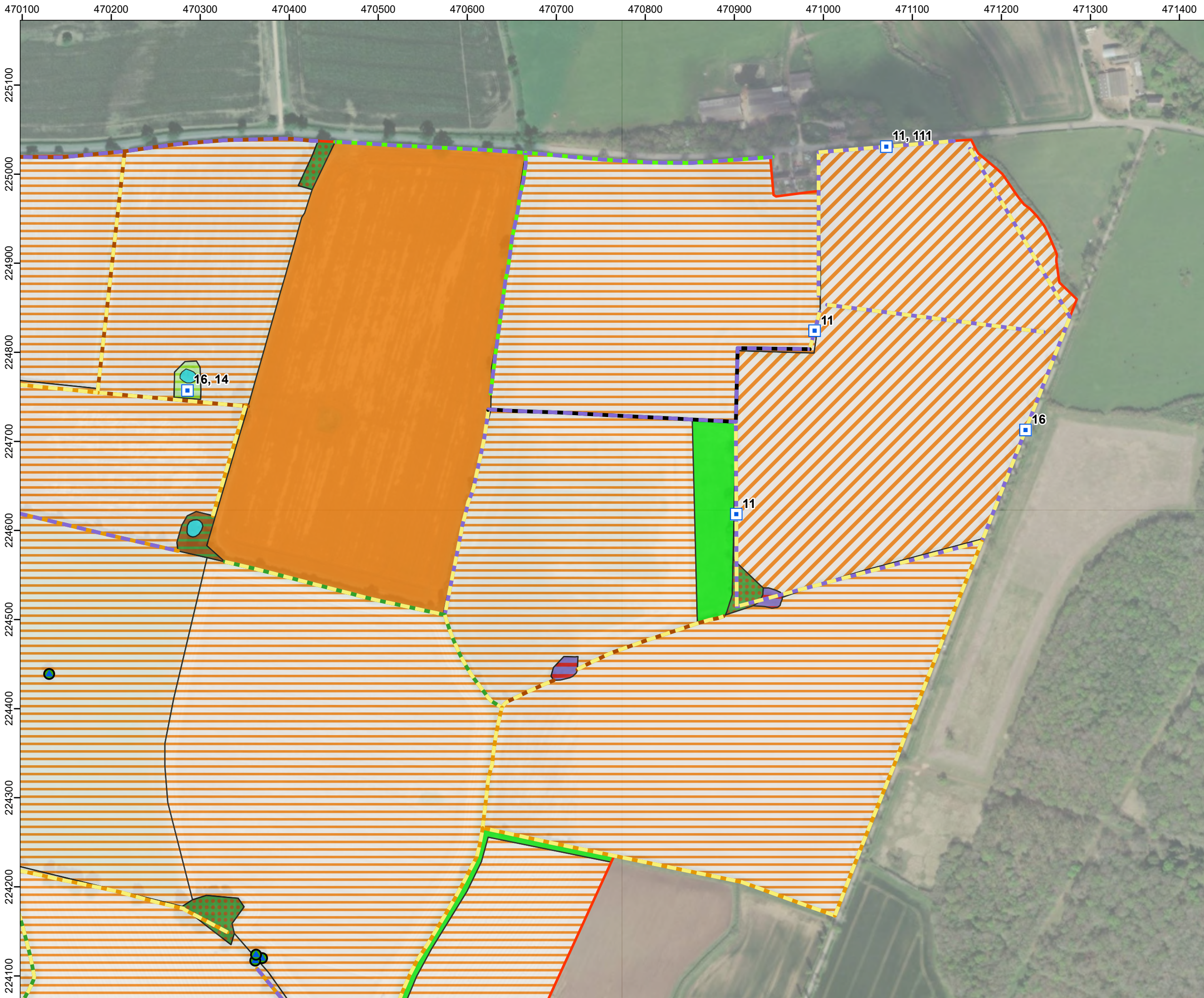
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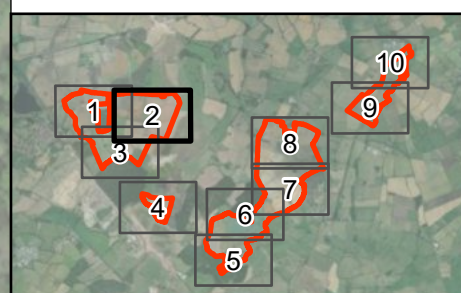


TITLE: Figure 3:
UKHab Habitat Classification
Page 1 of 10





- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cropland
 - Arable and Horticulture
 - Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Mixed Scrub
 - Ponds (Non-Priority Habitat)
 - Lowland Mixed Deciduous Woodland
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow
 - Species-Rich Native Hedgerow - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Rural Tree
 - Secondary Codes

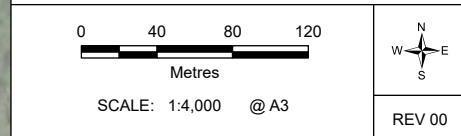


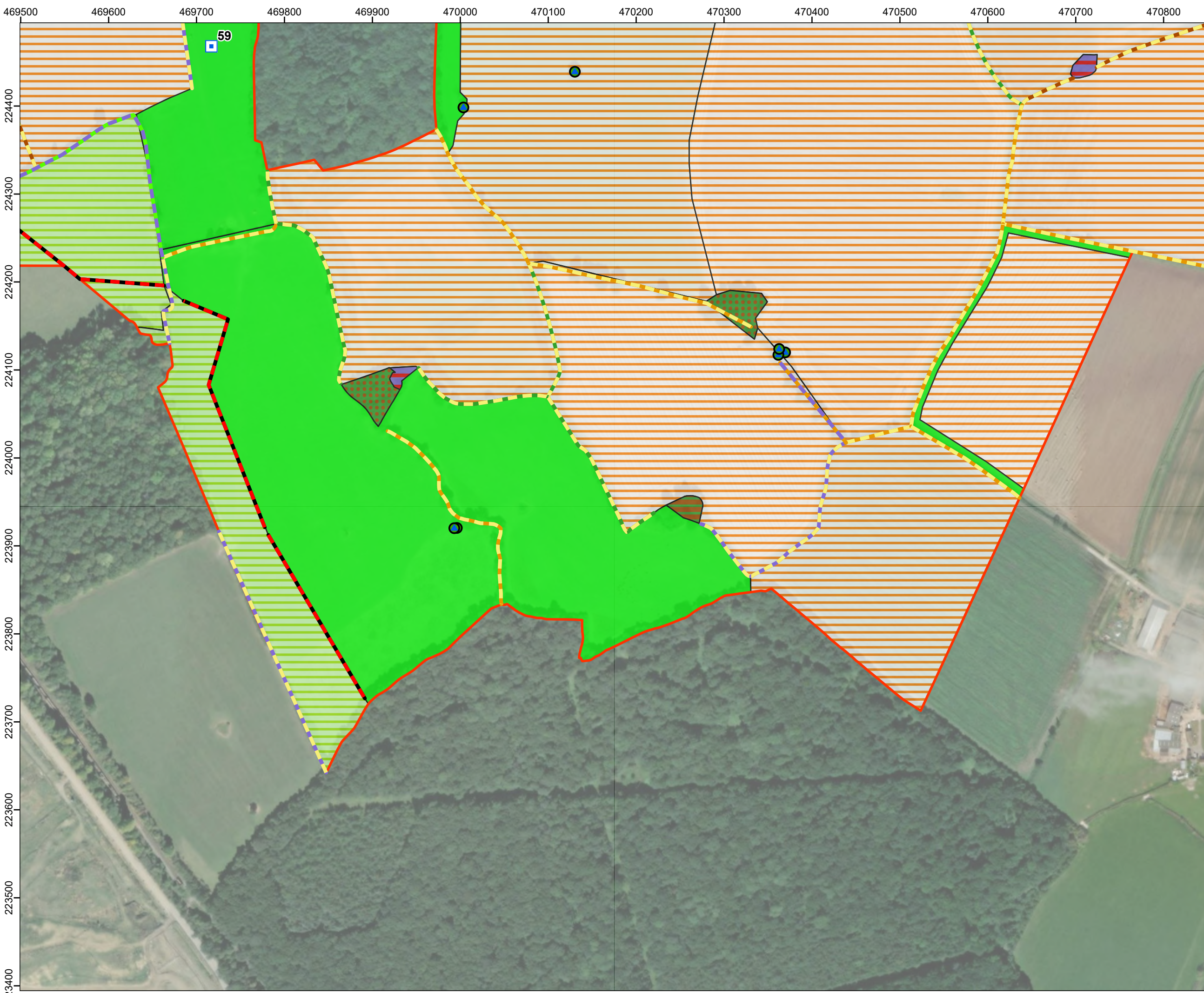
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Rev	Date	Description	Drn	Chk	App

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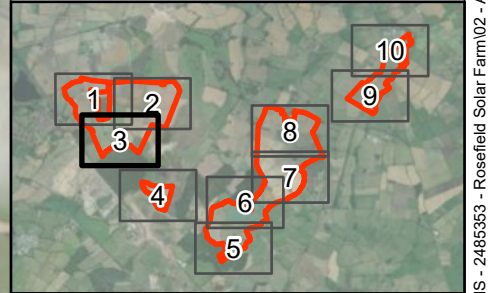


TITLE: Figure 3:
UKHab Habitat Classification
Page 2 of 10





- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Mixed Scrub
 - Lowland Mixed Deciduous Woodland
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Fence
 - Rural Tree
 - Secondary Codes



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00	07/11/2023	2485353	EC	RS	PT

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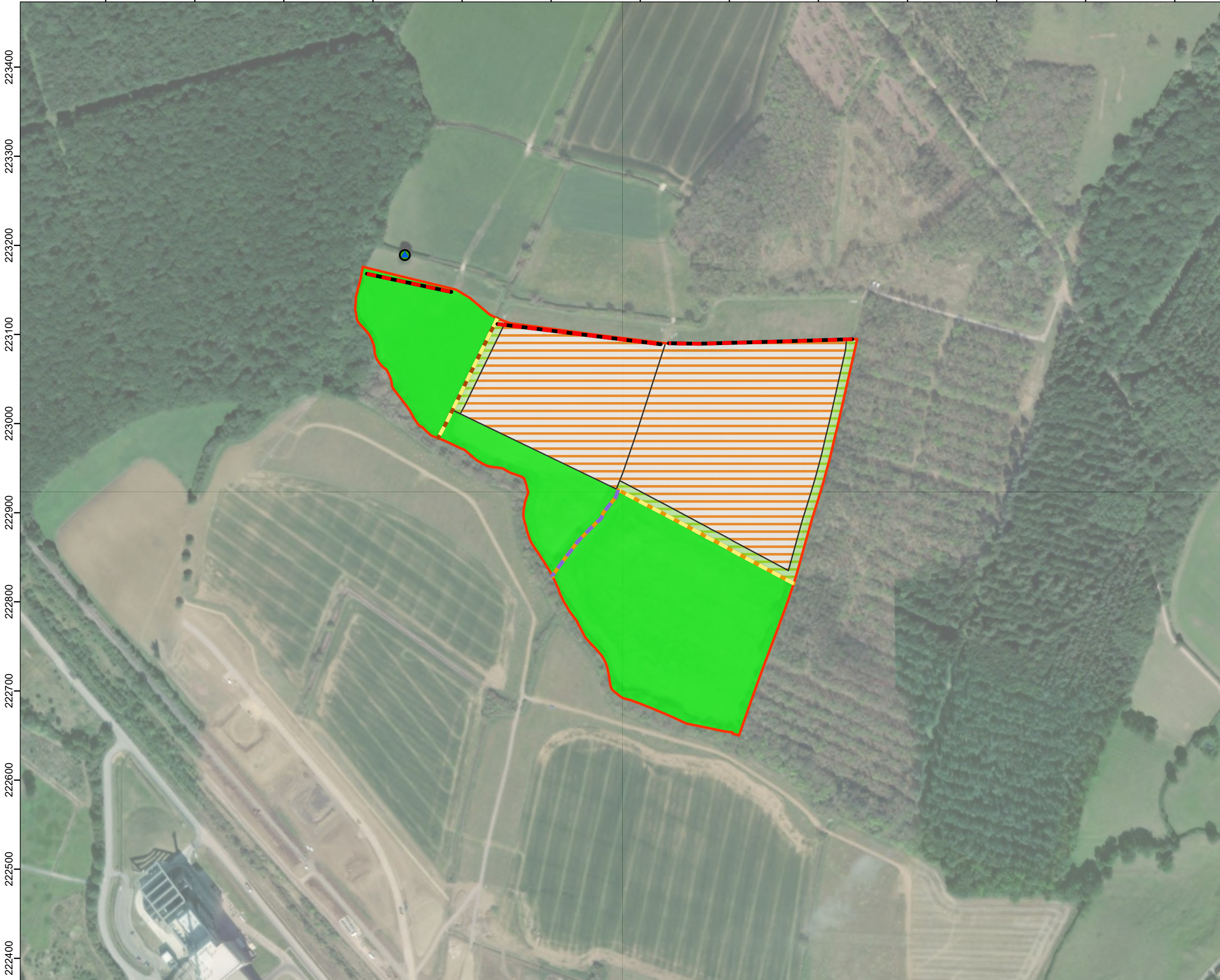
TITLE: Figure 3:
UKHab Habitat Classification
Page 3 of 10

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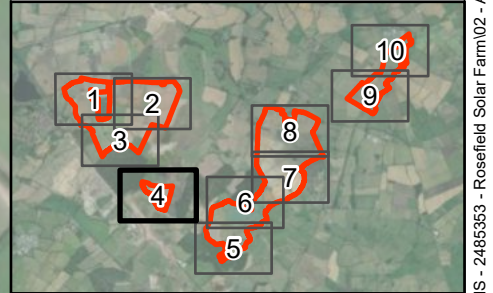
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- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Fence
 - Rural Tree
 - Secondary Codes

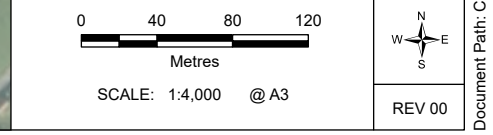


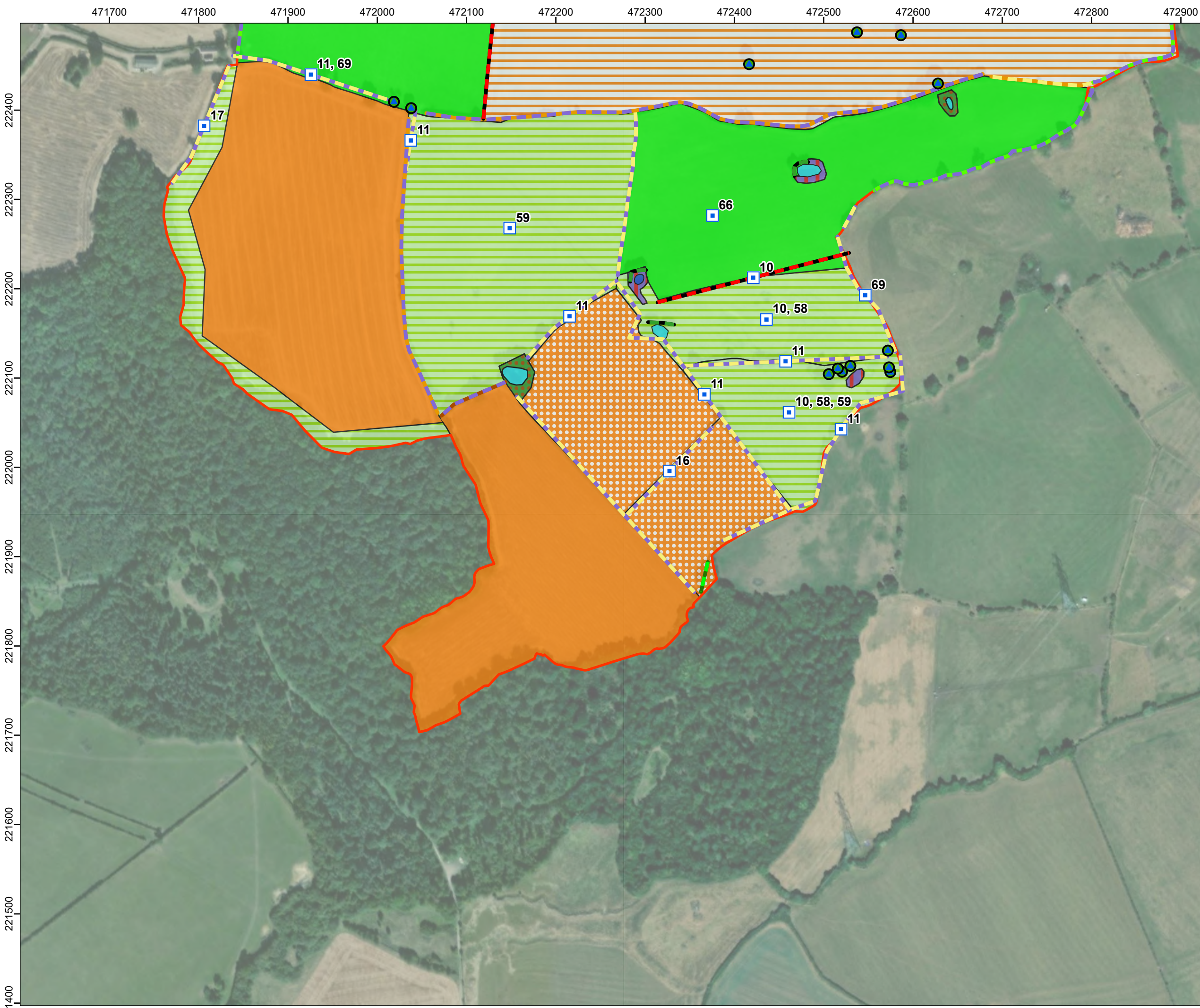
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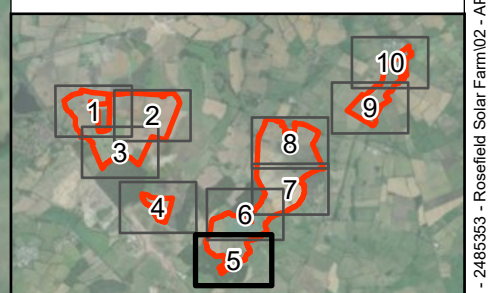


TITLE: Figure 3:
UKHab Habitat Classification
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- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cropland
 - Cereal Crops
 - Non-Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Bramble Scrub
 - Ponds (Priority Habitat)
 - Ponds (Non-Priority Habitat)
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Fence
 - Ecologically Valuable Line of Trees
 - Line of Trees
 - Rural Tree
 - Secondary Codes

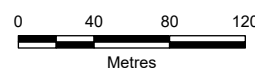


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TITLE: Figure 3:
UKHab Habitat Classification
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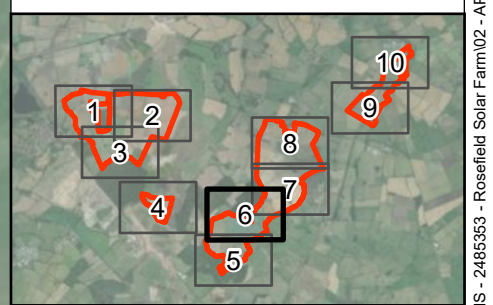
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REV 00



- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cropland
 - Cereal Crops
 - Non-Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Bramble Scrub
 - Ponds (Non-Priority Habitat)
 - Building
 - Artificial Unvegetated, Unsealed Surface
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Fence
 - Line of Trees
 - Rural Tree
 - Secondary Codes

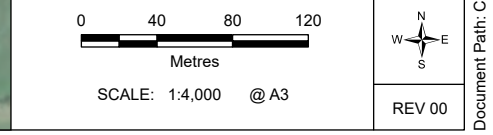


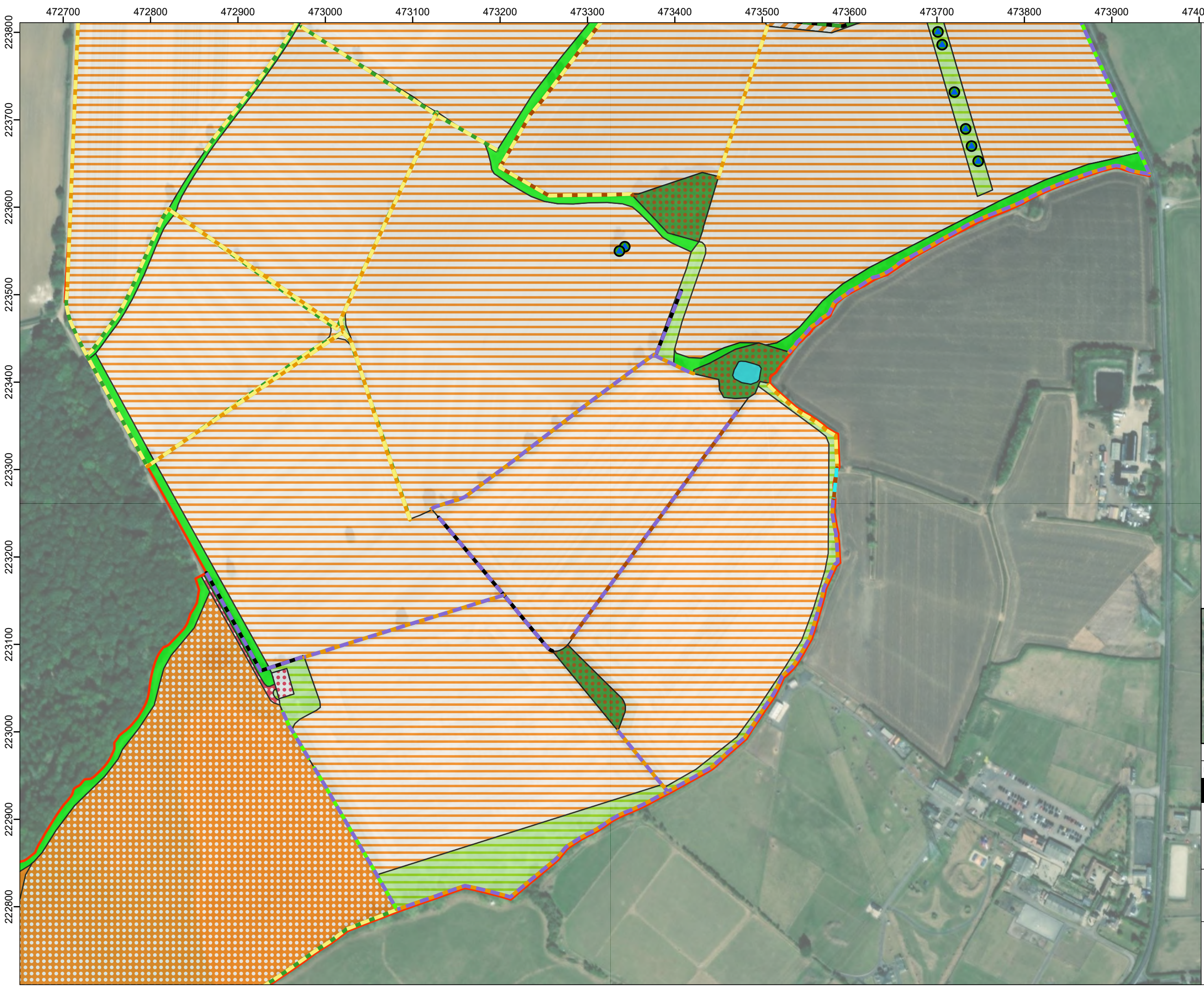
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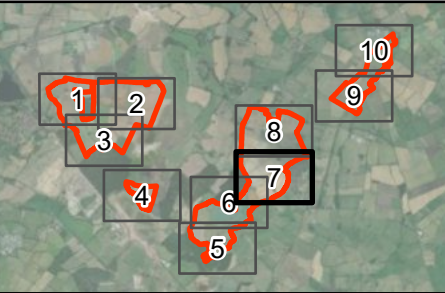


TITLE: Figure 3:
UKHab Habitat Classification
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- Legend:**
- Site Boundary
 - UKHab Classification
 - Cropland
 - Arable and Horticulture
 - Cereal Crops
 - Non-Cereal Crops
 - Other Neutral Grassland
 - Modified Grassland
 - Ponds (Non-Priority Habitat)
 - Building
 - Artificial Unvegetated, Unsealed Surface
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow
 - Species-Rich Native Hedgerow - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Ditches
 - Line of Trees
 - Rural Tree
 - Secondary Codes

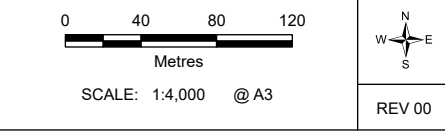


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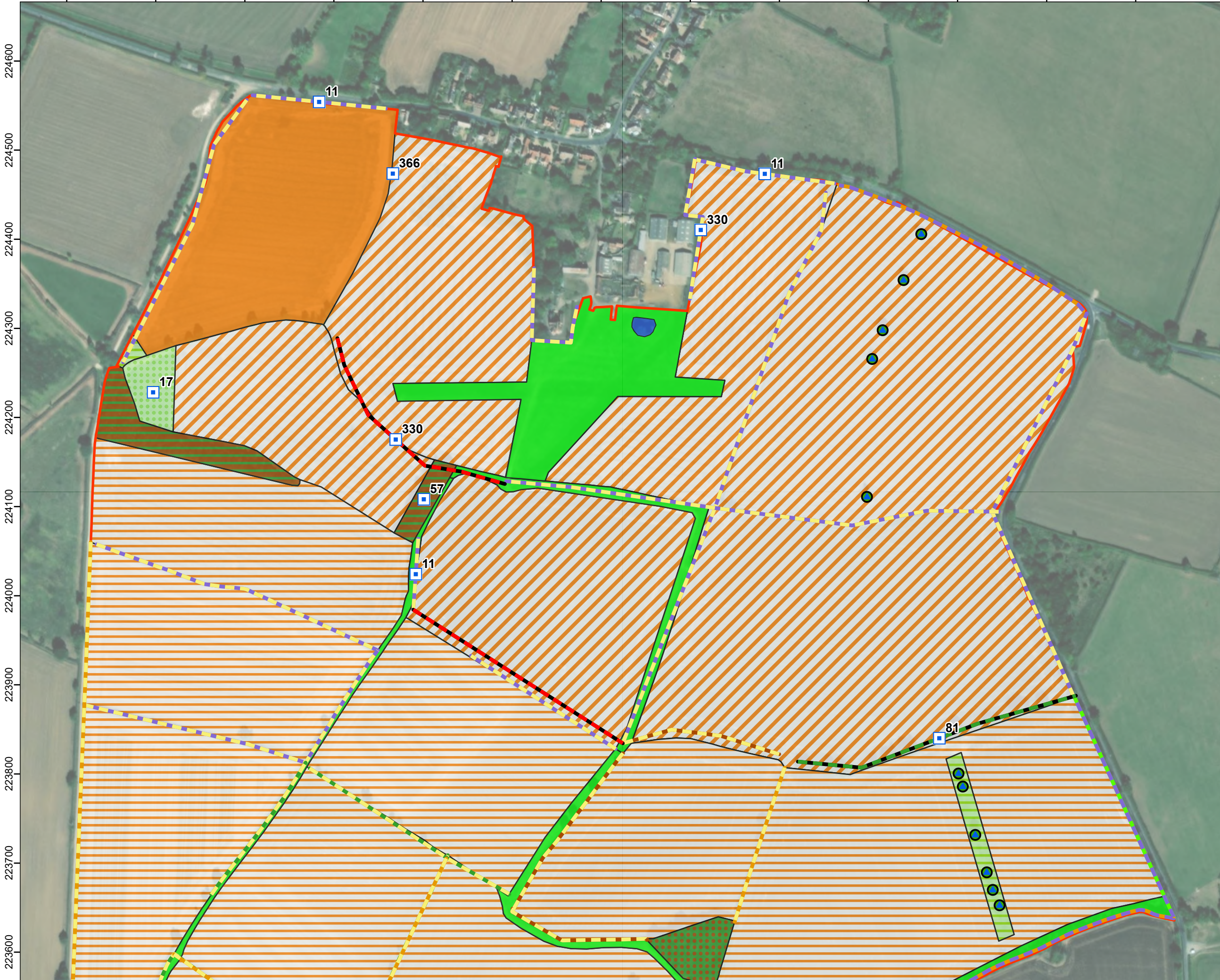


TITLE: Figure 3:
UKHab Habitat Classification
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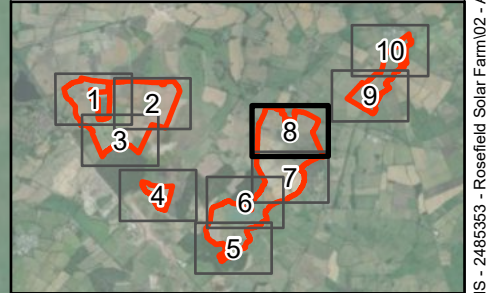


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World Imagery: Maxar, Microsoft
World Imagery: Earthstar Geographics

472700 472800 472900 473000 473100 473200 473300 473400 473500 473600 473700 473800 473900



- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cropland
 - Arable and Horticulture
 - Cereal Crops
 - Other Neutral Grassland
 - Arrhenatherum Neutral Grassland
 - Modified Grassland
 - Ponds (Priority Habitat)
 - Lowland Mixed Deciduous Woodland
 - Other Woodland; Broadleaved
 - Native Hedgerow
 - Native Hedgerow - Associated with Bank or Ditch
 - Native Hedgerow with Trees
 - Native Hedgerow with Trees - Associated with Bank or Ditch
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Fence
 - Line of Trees
 - Rural Tree
 - Secondary Codes

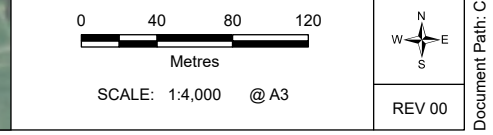


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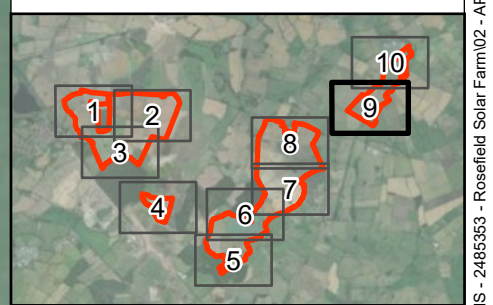


TITLE: Figure 3:
UKHab Habitat Classification
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- Legend:**
- Site Boundary
 - UKHab Classification**
 - Arable and Horticulture
 - Cereal Crops
 - Modified Grassland
 - Mixed Scrub
 - Lowland Mixed Deciduous Woodland
 - Other Woodland; Mixed
 - Native Hedgerow
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Ditches
 - Other Rivers and Streams
 - Fence
 - Secondary Codes



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TITLE: Figure 3:
UKHab Habitat Classification
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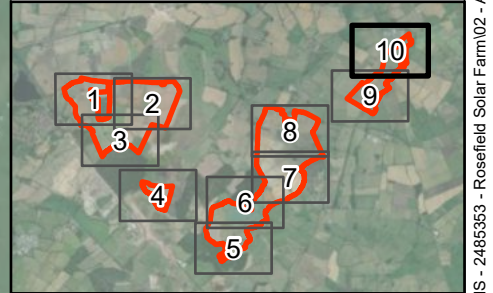
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- Legend:**
- Site Boundary
 - UKHab Classification**
 - Cereal Crops
 - Modified Grassland
 - Ponds (Non-Priority Habitat)
 - Lowland Mixed Deciduous Woodland
 - Native Hedgerow
 - Species-Rich Native Hedgerow with Trees
 - Species-Rich Native Hedgerow with Trees - Associated with Bank or Ditch
 - Other Rivers and Streams
 - Fence
 - Secondary Codes



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Rosefield Solar Farm



TITLE: Figure 3:
UKHab Habitat Classification
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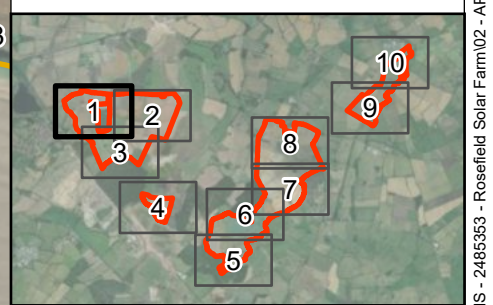
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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TITLE: Figure 4:
Hedgerow Regulation Survey Results
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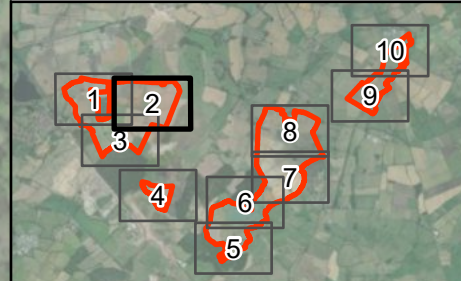
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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TITLE: Figure 4:
Hedgerow Regulation Survey Results
Page 2 of 10

0 40 80 120

Metres

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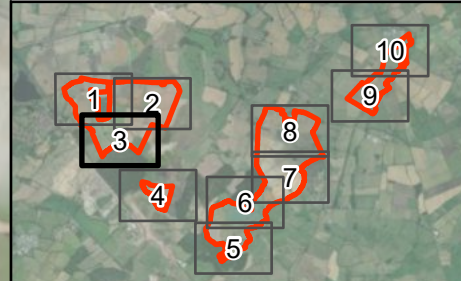
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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TITLE: Figure 4:
Hedgerow Regulation Survey Results
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Metres

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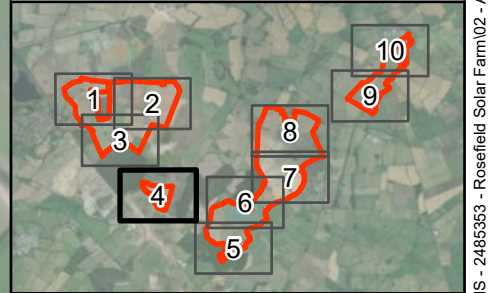
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



Rev	Date	Description	Drn	Chk	App
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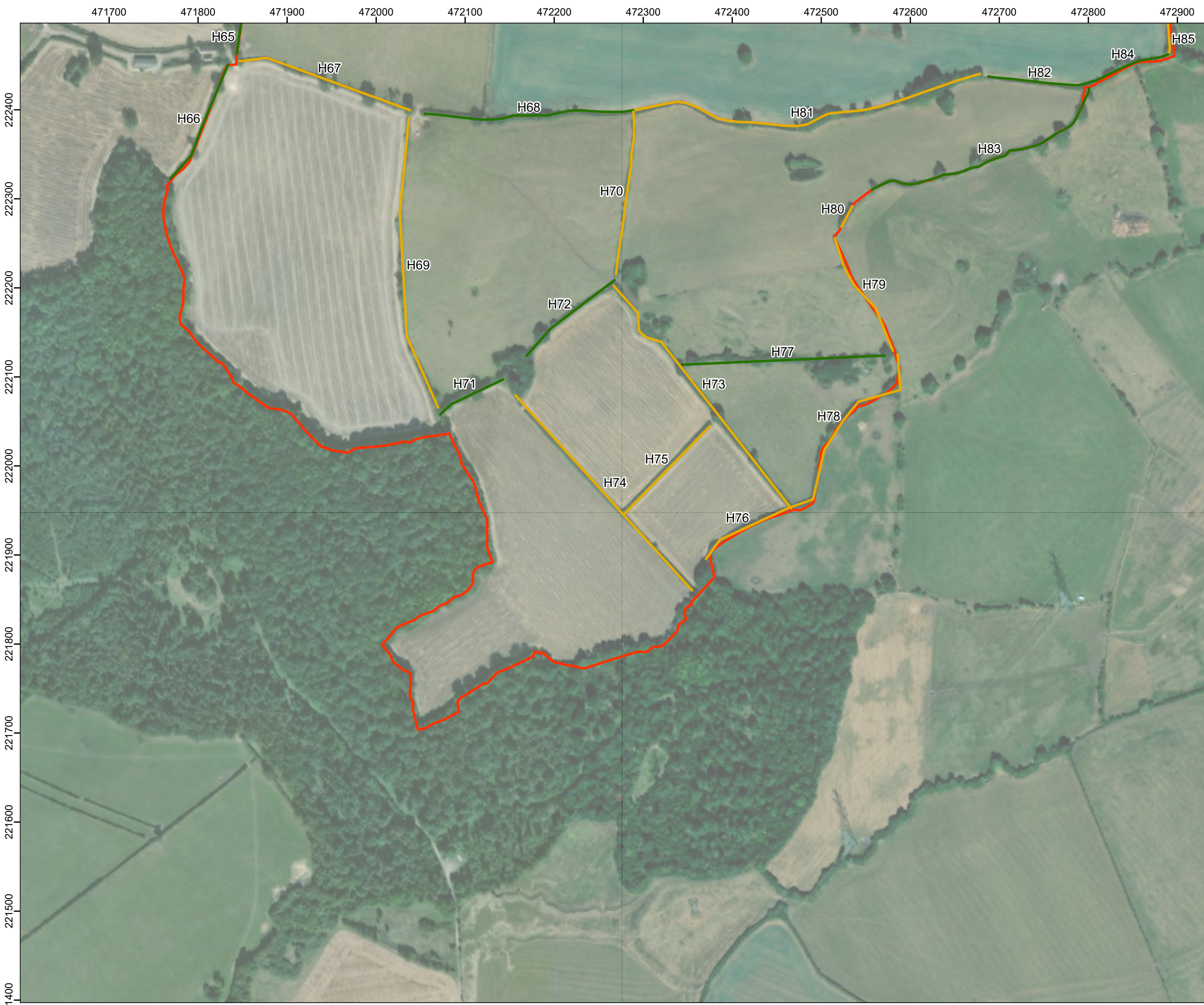


TITLE: Figure 4:
Hedgerow Regulation Survey Results
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Metres

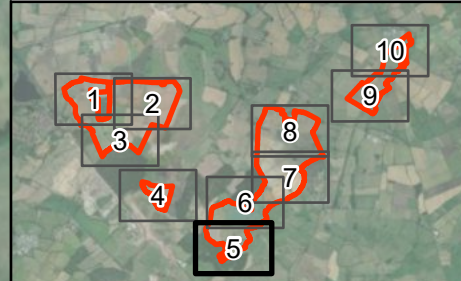
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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Metres

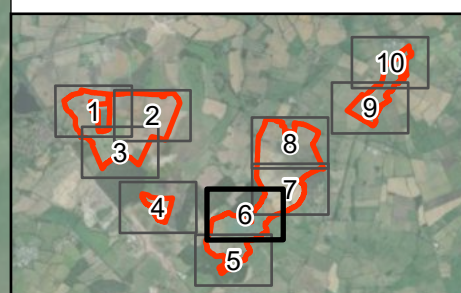
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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00	07/11/2023	2485353	EC	RS	PT


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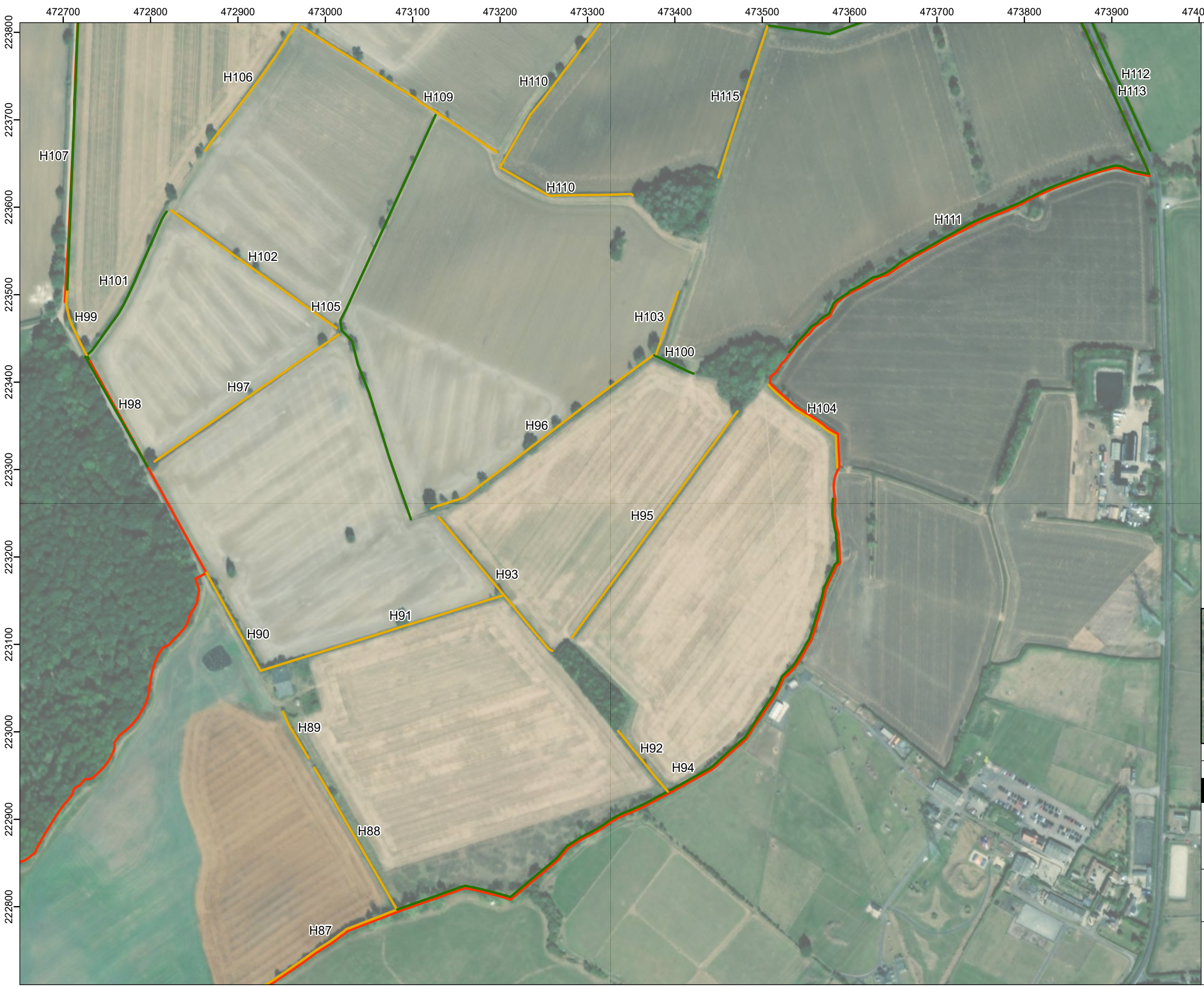
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Hedgerow Regulation Survey Results
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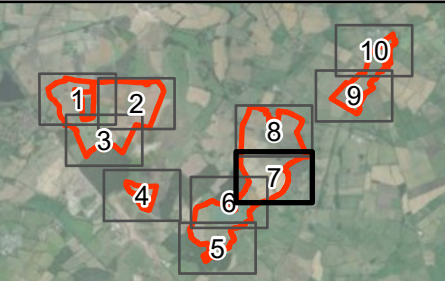


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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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00	07/11/2023	2485353	EC	RS	PT

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TITLE: Figure 4:
Hedgerow Regulation Survey Results
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Metres

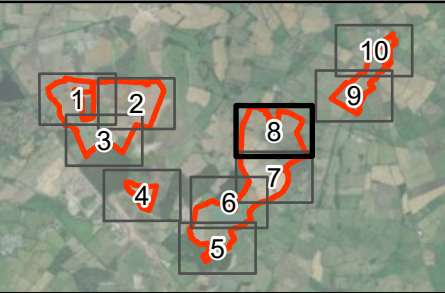
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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TITLE: Figure 4:
Hedgerow Regulation Survey Results
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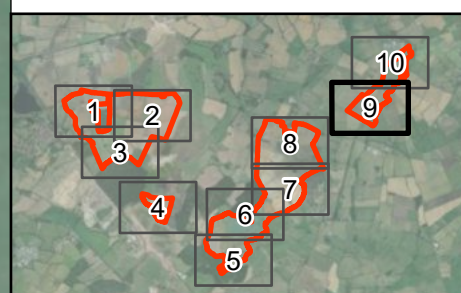
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Legend:

- Site Boundary
- Important Hedgerow**
- Yes
- No



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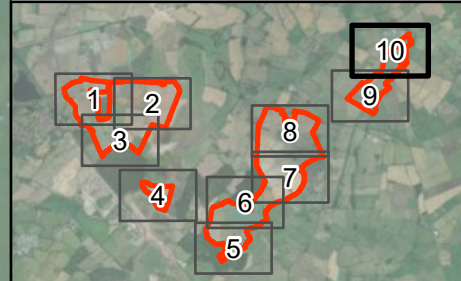
TITLE: Figure 4:
Hedgerow Regulation Survey Results
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- Legend:**
- Site Boundary
 - Important Hedgerow**
 - Yes
 - No



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TITLE: Figure 4:
Hedgerow Regulation Survey Results
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0 40 80 120

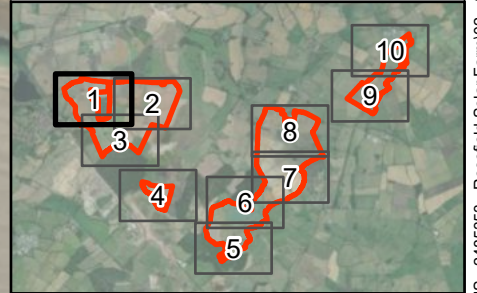
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Legend:
 Site Boundary
 Target Note

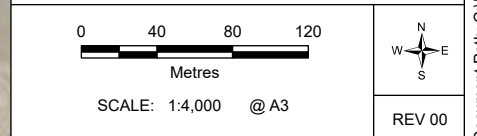


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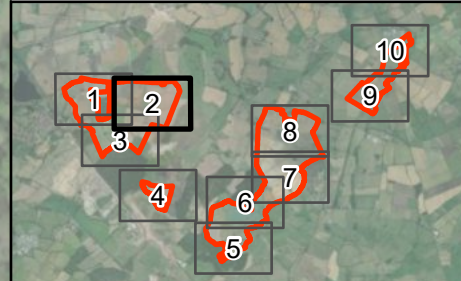
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 Target Notes
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- Legend:**
- Site Boundary
 - Target Note



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TITLE: Figure 5:
Target Notes
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0 40 80 120
Metres

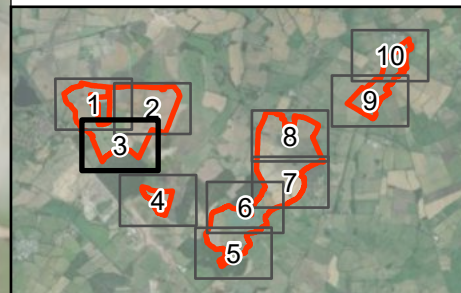
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- Legend:**
- Site Boundary
 - Target Note

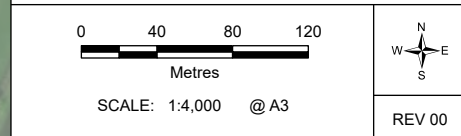


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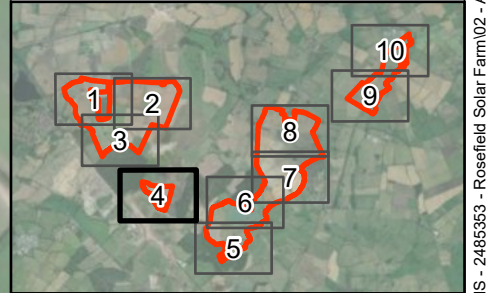
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Target Notes
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Legend:
 Site Boundary
 Target Note



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Rev	Date	Description	Drn	Chk	App

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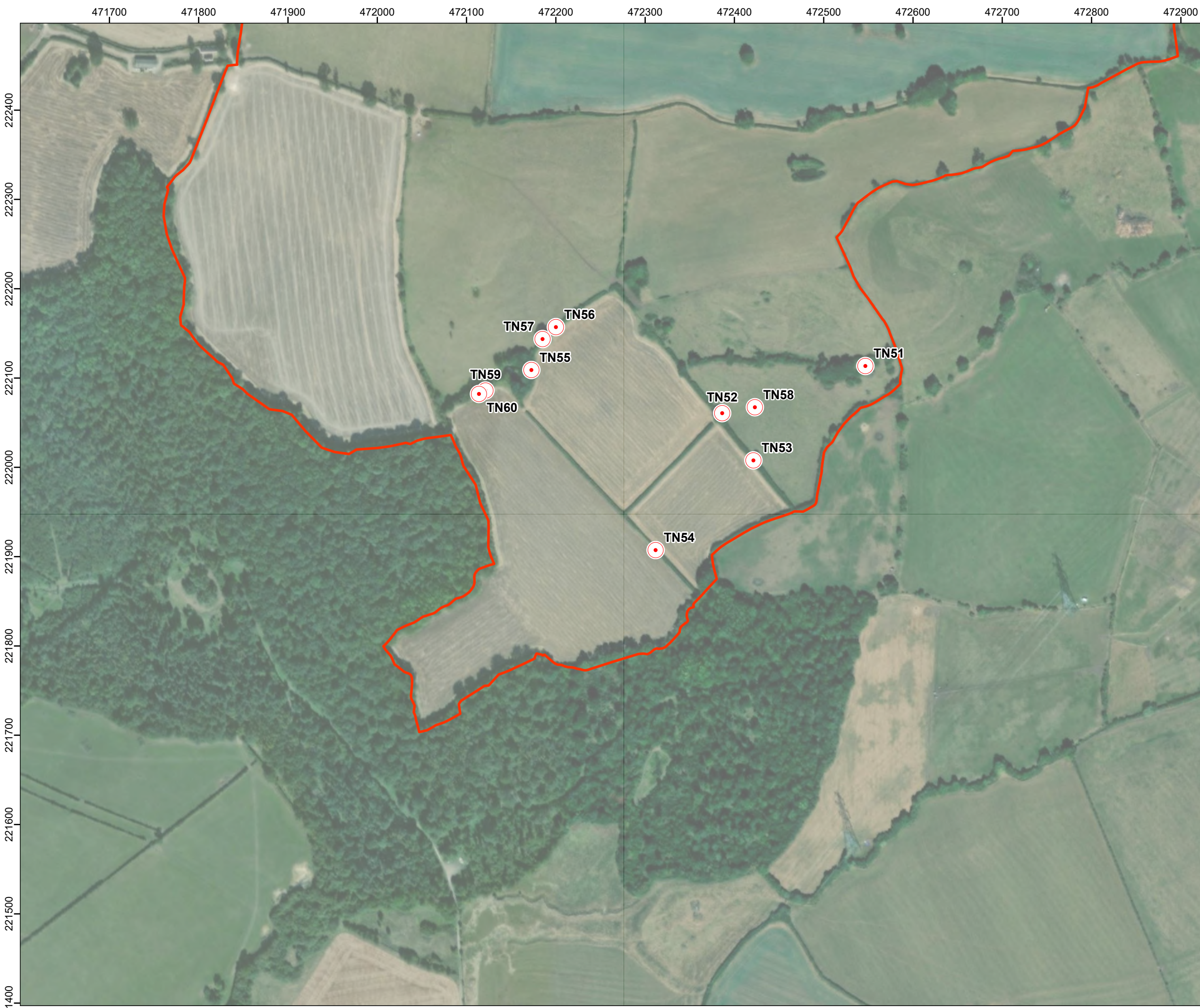


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 Target Notes
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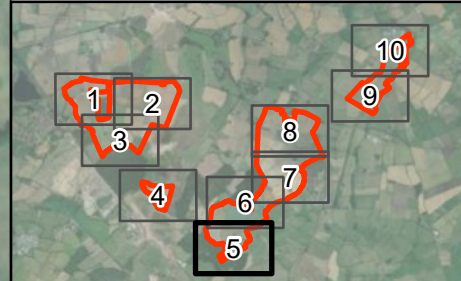
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- Legend:**
- Site Boundary
 - Target Note



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TITLE: Figure 5:
Target Notes
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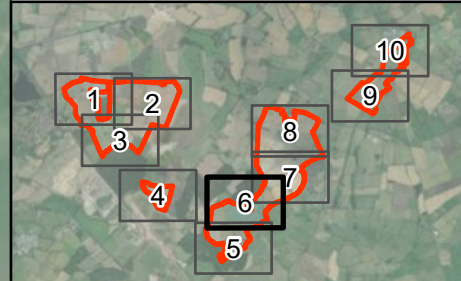
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REV 00



Legend:
 Site Boundary
 Target Note

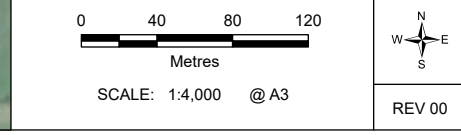


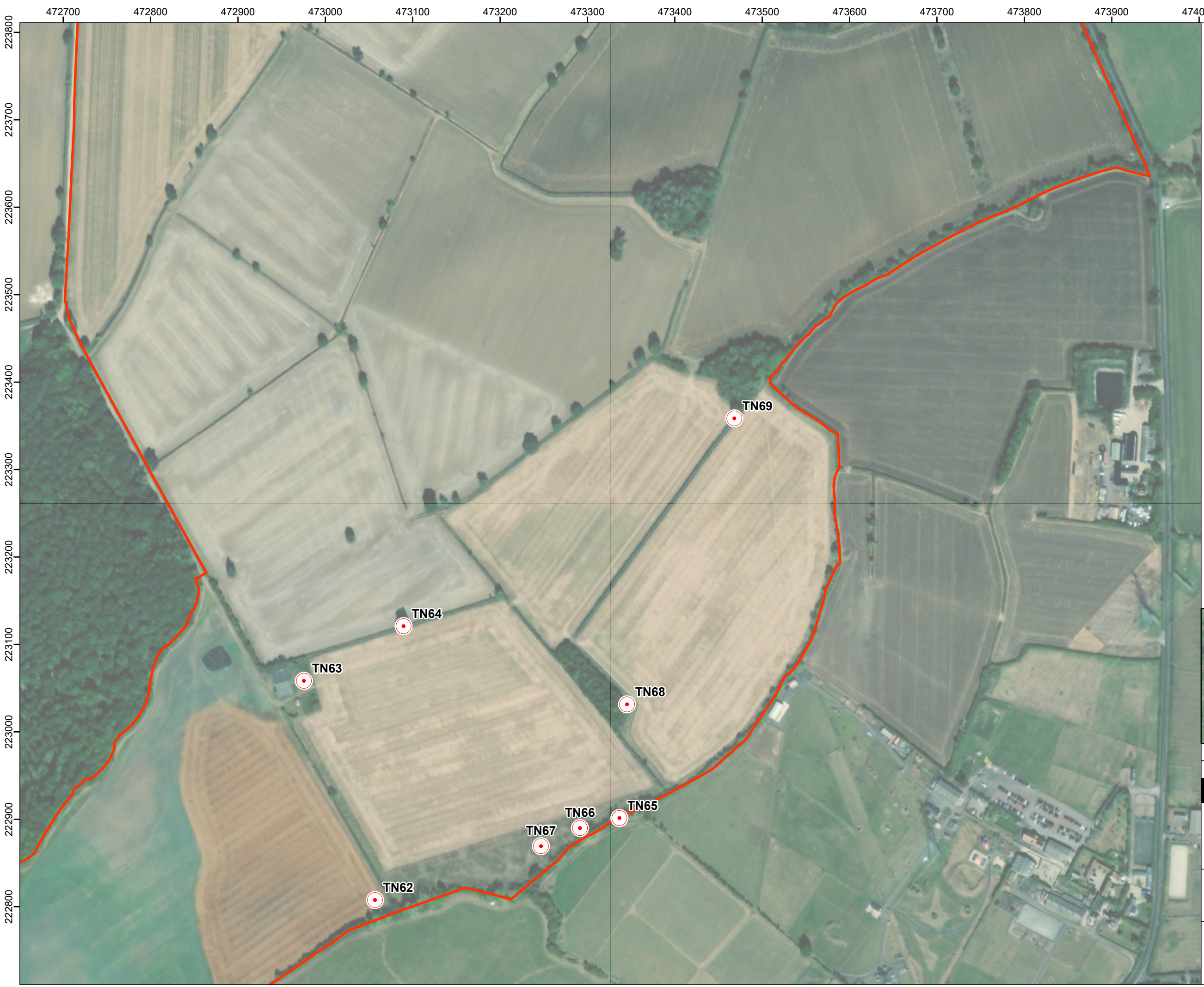
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Rosefield Solar Farm



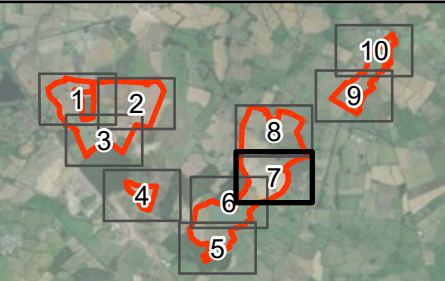
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TITLE: Figure 5:
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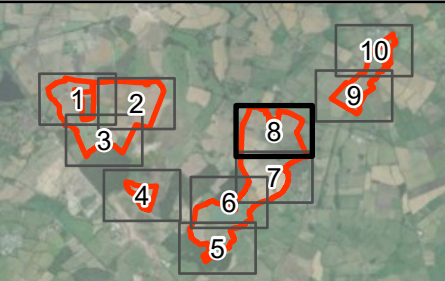
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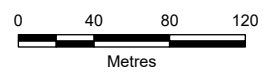


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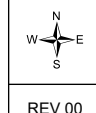
Rosefield Solar Farm



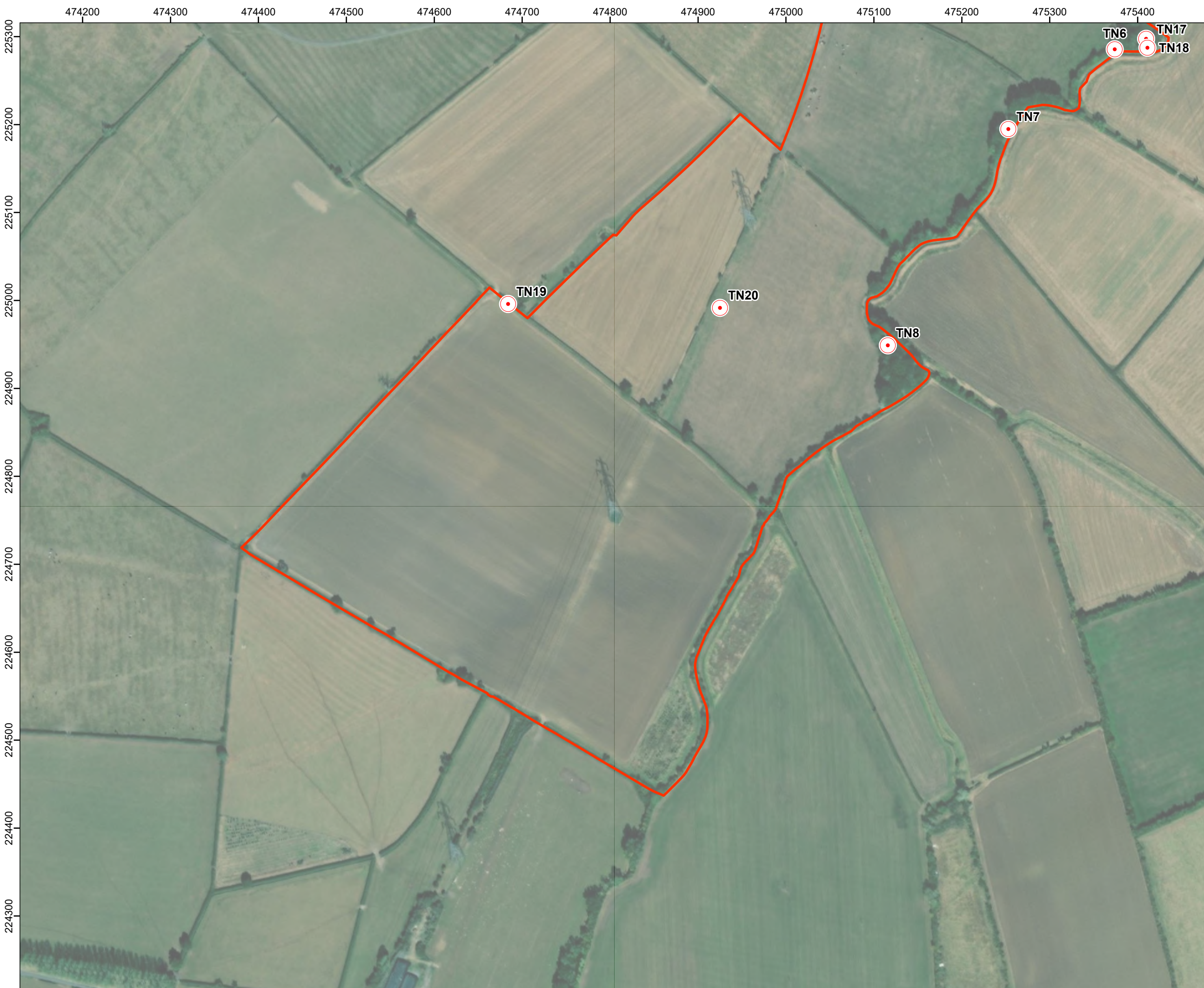
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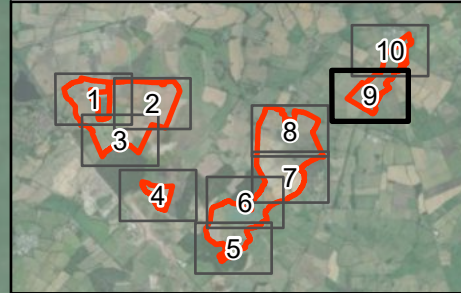


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Rosefield Solar Farm



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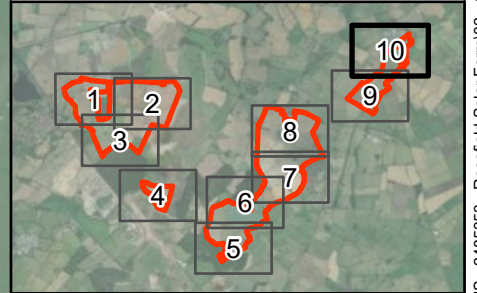
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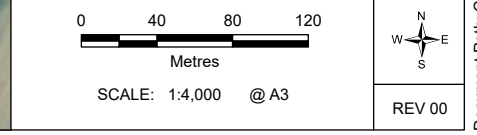


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Appendix A – Nature Conservation legislation and Policy

International Legislation

The following international conventions and directives apply to biodiversity protection in the UK. Post-‘Brexit’, even though European Union (EU) directives no longer directly apply to the UK, the provisions therein are enshrined in both domestic legislation and international agreements. Legislation has been enacted to ensure the regulations derived from these remain in force⁴.

The Convention on Biological Diversity 1992 *et seq.*

This multilateral treaty (<https://www.cbd.int/doc/legal/cbd-en.pdf>), signed by 150 government leaders at the 1992 Rio Earth Summit, has three main goals, of which one is the conservation of biological diversity. Article 6 requires countries to develop national biodiversity strategies, plans or programmes. In response, the UK developed the UK Biodiversity Action Plan (BAP) 1994 (<https://jncc.gov.uk/our-work/uk-bap/>) as well as county-specific BAPs. Subsequent to this, parties of the convention agreed the supplementary Nagoya Protocol 2010 (available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>), adopting the Strategic Plan for Biodiversity 2011-2020. The purpose of this Strategic Plan was to provide a framework for establishing national and regional biodiversity targets (<https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-EN.pdf>).

Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (Birds Directive) 2009

<https://www.legislation.gov.uk/eudr/2009/147>

The Birds Directive 2009 relates to the conservation of all species of naturally occurring birds in their wild state in the territory of the EU Member States (MSs) to which the treaty applies. Under the Birds Directive, the most suitable areas of conservation of the Annex I species are to be designated as Special Protection Areas (SPAs), as part of the European Natura 2000 network. Post Brexit, SPAs are no longer considered part of Natura 2000 and are instead components of the UK’s ‘national site network’, but their highly protected status is unchanged. Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to fulfil the commitment made by government to maintain environmental protections and continue to meet the UK’s international legal obligations.

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 1992

<https://www.legislation.gov.uk/eudr/1992/43>

The Habitats Directive 1992 requires EU MSs to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest,

⁴ Further information relating to England and Wales can be found here: <https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017>. A similar exercise has been undertaken in Scotland and Northern Ireland.

which are listed under Annex I, II, IV and/or V. Species listed under Annex IV are known as 'European Protected Species' (EPS), and have retained their protected status in UK domestic legislation post-Brexit.

Under the Habitats Directive, EU Member States are required to contribute to the Natura 2000 network through the designation of Special Areas of Conservation (SACs) for natural habitat types listed in Annex I and habitats of species listed in Annex II. Post Brexit, SACs are no longer considered part of the European Natura 2000 network and are instead components of the UK's 'national site network', but their highly protected status is unchanged.

The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971: the Ramsar Convention

<https://jncc.gov.uk/our-work/ramsar-convention/>

The Ramsar Convention is an intergovernmental treaty focused on the conservation and sustainable use of wetland, primarily as habitats for water birds. Under the convention, each ratified country is required to identify and designate sites (Ramsar sites) that meet the criteria for identifying a wetland of international importance, i.e. containing representative, rare or unique wetland types. In addition, the convention promotes international co-operation to promote the wise use of all wetlands and their resources.

Habitats Regulations Assessment (HRA): a note

There is a requirement under the EU nature directives, and enshrined in country-specific domestic legislation⁵ (see below), to undertake a screening exercise to determine whether any sites that form part of the 'national site network' (formerly Natura 2000) are likely to be significantly affected by any proposal (project or plan). The assessment must consider the proposals alone and also in combination with other plans and projects, if they result from activities that are not directly connected with, or necessary to, the management of the designated sites. If significant effects are likely, an Appropriate Assessment (AA) will need to be carried out. The screening, any AA, and any subsequent assessment, are collectively known as a Habitats Regulations Assessment (HRA). The HRA needs to take into account each of the 'Qualifying Features' (habitats or species) that justified the site being designated. Ramsar sites are treated in the same way as SACs and SPAs in HRAs, as are sites which have not been fully adopted i.e. candidate SACs (cSACs) and potential SPAs (pSPAs).

The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

<https://jncc.gov.uk/our-work/the-convention-on-the-conservation-of-migratory-species-of-wild-animals/#convention-summary>

The Bonn Convention was adopted in 1979 and came into force in 1985. Contracting Parties work together to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding

⁵ In England and Wales: the Conservation of Habitats and Species Regulations 2017 (as amended).
In Scotland: the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).
In Northern Ireland: the Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended).
In the UK offshore area: the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

multilateral agreements for the conservation and management of migratory species which require or would benefit from international cooperation (listed in Appendix II), and by undertaking cooperative research activities. The UK Government ratified the Bonn Convention in 1985. The current legally-binding Agreements under the Convention include EUROBATS⁶.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1979

<https://www.coe.int/en/web/bern-convention>

The principal aims of the Bern Convention 1979 are to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in Appendix III. To this end, the Bern Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1,000 wild animal species. The UK Government ratified the Bern Convention in 1982.

National Legislation

The following pieces of domestic legislation apply to biodiversity protection in the UK.

The Wildlife and Countryside Act (WCA) 1981

<https://www.legislation.gov.uk/ukpga/1981/69>

The Wildlife and Countryside Act 1981 (as amended) is the primary piece of legislation relating to nature conservation in the UK, though it has been adapted in different ways in the devolved administrations. It was initially enacted to implement the Bern Convention, Bonn Convention and the Birds Directive (described above).

The act is supplemented by provisions in the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006, and extended in Scotland by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011). Its equivalent in Northern Ireland is the Wildlife (Northern Ireland) Order 1985 (as amended and similarly extended). In addition to the Habitat Regulations (described below), the WCA provides protection for species listed in Schedules 1 (birds), 5 (other animals) and 8 (plants) of the Act. It provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) in England and Wales⁷. It also sets out, in other schedules, important and invasive species which are legally protected or require management.

All species of bird are protected under the WCA. The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;

⁶ More information available at <https://jncc.gov.uk/our-work/agreement-on-the-conservation-of-populations-of-european-bats-eurobats>

⁷ Duty replaced by the Nature Conservation (Scotland) Act 2004 (as amended) and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 (as amended) in those countries.

- take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Those species of birds listed on Schedule 1 of the WCA are afforded additional protection, which deems it an offence to intentionally or recklessly:

- disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturb dependent young of such a bird.

Under Section 9 of the WCA, for animals listed on Schedule 5, it is an offence in England and Wales to intentionally or recklessly:

- kill, injure or take any wild animal listed on Schedule 5*;

possess or control any live or dead those wild animals or anything derived from it*;

- damage or destroy any structure or place which wild animals listed on Schedule 5 uses for shelter or protection*;
- disturb any such animal while it is occupying a structure or place of shelter or protection;
- obstruct access to any structure or place used by any such animal for shelter or protection; and
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead wild animal listed on Schedule 5 or any part of, or anything derived from such an animal.

As noted above, there are minor differences between the offences in England and Wales outlined above, and those in Scotland / Northern Ireland. The three clauses marked with asterisks do not apply to EPS in England and Wales, as these offences are included in the 'Habitats Regulations' (see below). In addition, the Wildlife and Countryside Act 1981 is no longer relevant to EPS in Scotland or Northern Ireland, which instead are afforded full protection by the 'Habitats Regulations' (see below).

In addition to EPS, species commonly found on development sites include water voles (*Arvicola amphibius*) and widespread species of reptiles: common lizard (*Zootoca vivipara*); slow-worm (*Anguis fragilis*); grass snake (*Natrix helvetica*); and adder (*Vipera berus*). These four reptile species receive partial protection, which prevents the intentional or deliberate killing and injuring of reptiles or offering them for sale.

Section 14(2)⁸ states that it is an offence to plant or otherwise cause to grow any plant in the wild at a place outside its native range.

Section 16(i) of the Act makes provision for derogation licences to be issued “for the purposes of preserving public health or public ... safety”. For confirmation of this, it would be appropriate to consult the relevant statutory nature conservation body (SNCB)⁹.

⁸ In Scotland, as amended by Section 14 of the Wildlife and Natural Environment (Scotland) Act 2011.

⁹ SNCBs are - in England: Natural England; in Wales: Natural Resources Wales; in Scotland: NatureScot; in Northern Ireland: Department of Agriculture, Environment and Rural Affairs (DAERA).

Until recently, there has been no provision within the Act for derogation licences to be issued for the purposes of development, although Section 10 provides a defence in cases that may be considered to be: “*the incidental result of a lawful operation and could not reasonably have been avoided*” if certain conditions are met.

As a result of the Environment Act 2021, the introduction of the ‘overriding public interest’ (‘OPI’) test was added to the licensing purposes in the WCA, from October 2022, though this only applies in England.

The Conservation of Habitats and Species Regulations (Habitat Regulations) 2017 <https://www.legislation.gov.uk/ukxi/2017/1012> England and Wales

Conservation of Offshore Marine Habitats and Species Regulations 2017 <https://www.legislation.gov.uk/ukxi/2017/1013>

The Conservation of Offshore Marine Habitats and Species Regulations 2017 transposed into national law the Habitats Directive (and the Bird Directive in the UK offshore areas). These regulations apply to the UK’s offshore marine area which covers waters beyond 12 nautical miles, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area.

These regulations enable the designation and protection of areas that host habitats and species of European importance in the offshore marine area. These sites were previously defined collectively as ‘European offshore marine sites’ and now, together with all other terrestrial and marine SACs and SPAs across the UK, form a network of sites known as the ‘national site network’.

Countryside and Rights of Way Act 2000 <https://www.legislation.gov.uk/ukpga/2000/37>

The Countryside and Rights of Way (CRoW) Act 2000 provides for public access on foot to certain land types, amends the law for public rights of way, increases protection for SSSIs, and strengthens wildlife enforcement legislation. It applies only in England and Wales.

The Hedgerows Regulations 1997 <https://www.legislation.gov.uk/ukxi/1997/1160/made>

The Hedgerows Regulations 1997 provide protection for ‘important’ hedgerows for which replanting is not a substitute. The ‘importance’ of a hedgerow depends upon several archaeological, wildlife and landscape criteria (which are outlined in the Regulations). The regulations deem it an offence to remove an ‘important hedgerow’ without prior notification to the relevant local planning authority.

Protection of Badgers Act 1992 <https://www.legislation.gov.uk/ukpga/1992/51>

Badgers and their setts are protected under the Protection of Badgers Act 1992 (England, Wales and Scotland). The key part of this legislation in relation to the proposed development are in Section 3, which deems it an offence to:

- damage a badger sett or any part of it;

- destroy a badger sett;
- obstruct access to, or any entrance of, a badger sett;
- disturb a badger when it is occupying a badger sett,
- intend to do any of those things or be reckless as to whether those actions would have any of the consequences listed above.

Derogation licences may be obtained from the relevant SNCB⁹ under Section 10 of the Act for the purpose of development, to permit activities which would otherwise be unlawful.

Note: there are additional provisions relating to badgers under the WCA Section 11 (Prohibition of certain methods of killing or taking wild animals).

The Wild Mammals (Protection) Act 1996 <https://www.legislation.gov.uk/ukpga/1996/3>

All wild mammals are protected by The Wild Mammals (Protection) Act 1996 (as amended). This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal.

Invasive Alien Species (Enforcement and Permitting) Order 2019 <https://www.legislation.gov.uk/uksi/2019/527/contents/made>

The Invasive Alien Species (Enforcement and Permitting) Order applies principally in England and Wales and the UK's offshore marine area, but also controls imports and exports from the UK (including Scotland and Northern Ireland). It lists species of concern which cannot be imported, kept, bred/grown, transported, sold, used, allowed to reproduce, or released into the environment. This Order replaces some elements relating to invasive species in the Wildlife and Countryside Act 1981 (as amended).

National, regional and local policy and guidance of relevance

Planning policy relating to ecology and nature conservation is set out below.

National Planning Policy Framework 2021 <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

The National Planning Policy Framework (NPPF) sets out the Government's planning policy in England at the national level. It does not contain specific policies for nationally significant infrastructure projects, which are determined in accordance with the decision-making framework in the Act and relevant National Policy Statements for major infrastructure, as well as any other matters that are relevant (which may include the NPPF). Section 15 (paragraphs 174-188) of the NPPF specifies the requirements for conserving and enhancing the natural environment through the planning and development process to minimise impacts on habitats and biodiversity.

Planning Practice Guidance <https://www.gov.uk/government/collections/planning-practice-guidance>

The Planning Practice Guidance is a web-resource to support the NPPF, including guidance for Environmental Impact Assessments (<https://www.gov.uk/guidance/environmental-impact-assessment>) and the Natural Environment (<https://www.gov.uk/guidance/natural-environment>). The guidance for the Natural Environment explains key issues in implementing the NPPF to protect and enhance the natural environment, including local requirements. The guidance outlines what evidence needs to be taken into account in preparing planning applications to identify and map local ecological networks. It also outlines how biodiversity can be taken into account in preparing a planning application.

Government's 25-Year Environment Plan 2018

<https://www.gov.uk/government/publications/25-year-environment-plan>

The Government's 25-Year Environment Plan 2018 sets out how the UK Government intends to improve the natural health of the UK through improving land, air and water quality, as well as setting out how the effects of climate change will be tackled. The plan promotes the creation or restoration of wildlife-rich habitat outside the protected site network and seeks to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. The plan sets out a number of goals and corresponding policies that look at managing land sustainably, improving and enhancing landscapes and biodiversity for both marine and terrestrial environments, improving resource efficiency and reducing waste and pollution, whilst also examining the UK's contribution to improving the global environment.

Vale of Aylesbury Local Plan

https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/Aylesbury_local_plan_L46JWaT.pdf

NE1 Biodiversity and Geodiversity -

Protected Sites

Internationally or nationally important Protected Sites (SACs and SSSIs) and species will be protected. Avoidance of likely significant adverse effects should be the first option. Development likely to affect the Chiltern Beechwoods SAC will be subject to assessment under the Habitat Regulations and will not be permitted unless any significant adverse effects can be fully mitigated.

Development proposals that would lead to an individual or cumulative adverse impact on an internationally or nationally important Protected Site or species, such as SSSIs or irreplaceable habitats such as ancient woodland or ancient trees, will be refused unless exceptional circumstances can be demonstrated as follows:

- a) the benefits of the development at this site significantly and demonstrably outweigh both the impacts that it is likely to have on the features of the site that make it internationally or nationally important and any broader impacts on the national network – for example of Sites of Special Scientific Interest, and
- b) the loss can be mitigated and compensation can be provided to achieve a net gain in biodiversity/geodiversity

Sufficient information must be provided for the council to assess the significance of the impact against the importance of the Protected Site and its component habitats and the species which depend upon it. This will include the area around the Protected Site and the ecosystem

services it provides and evidence that the development has followed the mitigation hierarchy set out in (d) below

Protection and enhancement of Biodiversity and Geodiversity

Protection and enhancement of biodiversity and geodiversity will be achieved by the following:

- c) A net gain in biodiversity on minor and major developments will be sought by protecting, managing, enhancing and extending existing biodiversity resources, and by creating new biodiversity resources. These gains must be measurable using best practice in biodiversity and green infrastructure accounting and in accordance with any methodology (including a Biodiversity Impact Assessment) to be set out in the Buckinghamshire Biodiversity Accounting SPD.
- d) If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted. If a net loss in biodiversity is calculated, using a suitable Biodiversity Impact Assessment (see c) then avoidance, mitigation and compensation, on site first, then offsite must be sought so the development results in a net gain (percentage of net gain to meet any nationally-set minimum standard and or as detailed in an SPD) in order for development to be permitted. Mitigation, compensation and enhancement measures must be secured and should be maintained in perpetuity. These assessments must be undertaken in accordance with nationally-accepted standards and guidance (BS 8683 Biodiversity net gain in project design and construction; and CIRIA Biodiversity Net Gain Good practice principles for development).
- e) Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance (such as Local Wildlife Sites or Local Geological Sites) including habitats of principal importance (known as Priority Habitats) or the habitats of species of principal importance (Priority Species) or their habitats will not be permitted except in exceptional circumstances where the need for, and benefits of the development significantly and demonstrably outweigh the harm it would cause to the site, and the loss can be mitigated and compensation provided to achieve a net gain.
- f) The Council will, where appropriate, expect ecological surveys for planning applications. These must be undertaken by a suitably qualified person and consistent with nationally accepted standards and guidance (BS 42020: Biodiversity – Code of Practice for planning and development; and CIEEM Ecological Report Writing guidance) as replaced
- g) Where development proposals affect a Priority Habitat (As defined in the Buckinghamshire Biodiversity Action Plan or UK Biodiversity Action Plan and as listed in accordance with s41 of the NERC Act 2006) then mitigation should not be off-site. Where no Priority Habitat is involved then mitigation is expected to follow the mitigation hierarchy, where options for avoidance, mitigation and compensation on-site, and then offsite compensation, should be followed in that order as outlined in d. When there is a reasonable likelihood of the presence of protected or priority species or their habitats, development will not be permitted until it has been demonstrated that the proposed development will not result in adverse impacts on these species or their habitats. The only exception will be where the advantages of development to the protected site and the local community clearly outweigh the adverse impacts. In such a case, the council will consider the wider implications of any adverse impact to a protected site, such as

its role in providing a vital wildlife corridor, mitigating flood risk or ensuring good water quality in a catchment.

- h) Development proposals will be expected to promote site permeability for wildlife and avoid the fragmentation of wildlife corridors, incorporating features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value on site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors including water courses should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.
- i) Planning conditions/obligations will be used to ensure net gains in biodiversity by helping to deliver the Buckinghamshire and Milton Keynes Biodiversity Action Plan targets in the biodiversity opportunity areas and other areas of local biodiversity priority. Where development is proposed within, or adjacent to, a biodiversity opportunity area, biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Biodiversity Opportunity Area from being achieved will not be permitted. Where there is potential for development, the design and layout of the development should secure biodiversity enhancement and the council will use planning conditions and obligations as needed to help achieve the aims of the biodiversity opportunity area. A monitoring and management plan will be required for biodiversity features on site to ensure their long-term suitable management (secured through planning condition or Section 106 agreement).
- j) Development proposals adversely affecting a Local Nature Reserve will be considered on a case-by-case basis, according to the amount of information available about the site and its significance, relative to the type, scale and benefits of the development being proposed and any mitigation. Any mitigation strategy will need to include co-operation with the nature reserve managers.

Appendix B – NOTEWORTHY SPECIES RECORDS

Table 5 displays noteworthy species records that are located within 2 km of the Site Boundary. These species records were obtained from Buckinghamshire and Milton Keynes Environmental Records Centre. The scientific and common names for species are given as well as their level of designation. A glossary defining abbreviations used in the table is given in Table 6, Appendix C. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but that data-holding organizations do not have records of it in these locations.

Table 5 Noteworthy species records within 2 km of the Site Boundary

Scientific name	Common name	Designation	Most Recent	Within 100m	Within 1 km
Fungi					
<i>Sphinctrina turbinata</i>		NS			
Plants					
<i>Anacamptis morio</i>	green-winged orchid	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Bromus secalinus</i>	rye brome	NS			
<i>Buxus sempervirens</i>	box	NR			
<i>Carex vulpina</i>	true fox-sedge	S41, GB RDB(VU), ENG BSBI RDB(VU), NR			
<i>Chenopodium bonus-henricus</i>	Good-King-Henry	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Euphorbia exigua</i>	dwarf spurge	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Genista tinctoria</i>	dyer's greenweed	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Helleborus foetidus</i>	stinking hellebore	NS			
<i>Hippophae rhamnoides</i>	sea-buckthorn	NS			
<i>Hordelymus europaeus</i>	wood barley	NS			
<i>Hyacinthoides non-scripta</i>	bluebell	WCA8			
<i>Juniperus communis</i>	juniper	S41			
<i>Lithospermum arvense</i>	field gromwell	GB RDB(EN), ENG BSBI RDB(EN)			
<i>Muscari neglectum</i>	grape-hyacinth	S41, NR			
<i>Neottia nidus-avis</i>	bird's-nest orchid	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Nymphoides peltata</i>	fringed water-lily	NS			
<i>Oenanthe fistulosa</i>	tubular water-dropwort	S41, GB RDB(VU), ENG BSBI RDB(VU)			

<i>Pinus sylvestris</i>	scots pine	NS			
<i>Ranunculus flammula</i>	lesser spearwort	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Tilia platyphyllos</i>	large-leaved lime	NS			
<i>Trifolium fragiferum</i>	strawberry clover	GB RDB(VU), ENG BSBI RDB(VU)			
<i>Viola canina</i>	heath dog-violet	GB RDB(VU), ENG BSBI RDB(VU)			
Invertebrates					
<i>Acronicta psi</i>	grey dagger	S41			
<i>Acronicta rumicis</i>	knot grass	S41			
<i>Acupalpus exiguus</i>		NS, Notable:B			
<i>Aderus populneus</i>		NS, Notable:B			
<i>Adscita statices</i>	forester	S41			
<i>Agrilus viridis</i>		NS			
<i>Agrochola lychnidis</i>	beaded chestnut	S41			
<i>Allophyes oxyacanthae</i>	green-brindled crescent	S41			
<i>Ampedus elongantulus</i>		Notable:A			
<i>Amphipoea oculea</i>	ear moth	S41			
<i>Amphipyra tragopoginis</i>	mouse moth	S41			
<i>Anaglyptus mysticus</i>		Notable:B			
<i>Anchoscelis litura</i>	brown-spot pinion	S41			
<i>Andrena (Chrysandrena) fulvago</i>	hawksbeard mining bee	Notable:A			
<i>Andrena (Poecilandrena) labiata</i>	red-girdled mining bee	Notable:A			
<i>Anthribus fasciatus</i>		Notable:A			
<i>Anthribus nebulosus</i>		Notable:B			
<i>Apamea anceps</i>	large nutmeg	S41			
<i>Apamea remissa</i>	dusky brocade	S41			
<i>Apatura iris</i>	purple emperor	WCA5			
<i>Aporophyla lutulenta</i>	deep-brown dart	S41			
<i>Arctia caja</i>	garden tiger	S41			
<i>Asteroscopus sphinx</i>	sprawler	S41			
<i>Atethmia centrigo</i>	centre-barred sallow	S41			
<i>Atylotus rusticus</i>	four-lined horsefly	NR			

<i>Boloria euphrosyne</i>	pearl-bordered fritillary	WCA5, S41, GB RDB(EN)			
<i>Boloria selene</i>	small pearl-bordered fritillary	S41			
<i>Bombus ruderarius</i>	red-shanked carder bee	S41			
<i>Bombus ruderatus</i>	large garden bumblebee	S41, Notable:B			
<i>Bombus rupestris</i>	hill cuckoo bee	Notable:B			
<i>Bombylius discolor</i>	dotted bee-fly	NS, Notable			
<i>Brachylomia viminalis</i>	minor shoulder-knot	S41			
<i>Calamotropha paludella</i>	bulrush veneer	Notable:B			
<i>Caradrina morpheus</i>	mottled rustic	S41			
<i>Catoplatus fabricii</i>		Notable:B			
<i>Ceramica pisi</i>	broom moth	S41			
<i>Chiasmia clathrata</i>	latticed heath	S41			
<i>Choerades marginatus</i>	golden-haired robberfly	NS, Notable			
<i>Cirrhia gilvago</i>	dusky-lemon sawfly	S41			
<i>Cirrhia icteritia</i>	sawfly	S41			
<i>Coenonympha pamphilus</i>	small heath	S41			
<i>Coenonympha tullia</i>	large heath	WCA5, S41, GB RDB(VU)			
<i>Cosmia diffinis</i>	white-spotted pinion	S41			
<i>Cupido minimus</i>	small blue	WCA5, S41			
<i>Cymatophorina diluta</i>	oak lutestring	S41			
<i>Dendroxena quadrimaculata</i>		Notable:B			
<i>Diarsia rubi</i>	small square-spot	S41			
<i>Diloba caeruleocephala</i>	figure of eight	S41			
<i>Dolichovespula (Dolichovespula) media</i>		Notable:A			
<i>Dropephylla gracilicornis</i>		Notable			
<i>Drymus (Sylvadrymus) pumilio</i>		Notable:B			
<i>Ecliptopera silaceata</i>	small phoenix	S41			
<i>Elegia similella</i>	white-barred knot-horn	Notable:B			

<i>Ennomos erosaria</i>	september thorn	S41			
<i>Ennomos fuscantaria</i>	dusky thorn	S41			
<i>Ennomos quercinaria</i>	august thorn	S41			
<i>Erynnis tages</i>	dingy skipper	S41, GB RDB(VU)			
<i>Ethmia dodeceea</i>	dotted ermel	Notable:B			
<i>Eucera longicornis</i>	long-horned bee	S41, Notable:A			
<i>Eulithis mellinata</i>	spinach	S41			
<i>Eupachygaster tarsalis</i>	scarce black	NR, Notable			
<i>Euxoa nigricans</i>	garden dart	S41			
<i>Ferdinandea ruficornis</i>		NS, Notable			
<i>Gelechia nigra</i>	black groundling	Notable:B			
<i>Glaphyra umbellatarum</i>		Notable:A			
<i>Gonodera luperus</i>		NS			
<i>Graphiphora augur</i>	double dart	S41			
<i>Helotropha leucostigma</i>	crescent	S41			
<i>Hemistola chrysoprasaria</i>	small emerald	S41			
<i>Hepialus humuli</i>	ghost moth	S41			
<i>Hoplodrina blanda</i>	rustic	S41			
<i>Hydraecia micacea</i>	rosy rustic	S41			
<i>Hypera meles</i>		Notable:A			
<i>Lasioglossum (Evylaeus) pauxillum</i>	lobe-spurred furrow bee	Notable:A			
<i>Lasioglossum (Evylaeus) puncticolle</i>	ridge-cheeked furrow bee	Notable:B			
<i>Lasioglossum malachurum</i>	sharp-collared furrow bee	Notable:B			
<i>Lasiommata megera</i>	wall	S41			
<i>Lasius brunneus</i>	brown tree ant	Notable:A			
<i>Leptidea sinapis</i>	wood white	WCA5, S41, GB RDB(EN)			
<i>Leucania comma</i>	shoulder-striped wainscot	S41			
<i>Limenitis camilla</i>	white admiral	S41, GB RDB(VU)			
<i>Lithobius (Lithobius) macilentus</i>		NS			
<i>Longitarsus nigrofasciatus</i>		NR, Notable:A			

<i>Lycia hirtaria</i>	brindled beauty	S41			
<i>Macaria wauaria</i>	v-moth	S41			
<i>Magdalis (Porrothus) cerasi</i>		Notable:B			
<i>Malacosoma neustria</i>	lackey	S41			
<i>Malthodes pumilus</i>		NS			
<i>Megalonotus antennatus</i>		Notable:B			
<i>Melanchra persicariae</i>	dot moth	S41			
<i>Microplontus campestris</i>		Notable:B			
<i>Mniotype adusta</i>	dark brocade	S41			
<i>Mordellistena (Mordellistena) neuwaldeggiana</i>		NS			
<i>Myolepta dubia</i>		NS, Notable			
<i>Neocoenorrhinus interpunctatus</i>		Notable:B			
<i>Nephoterix angustella</i>	spindle knot-horn	Notable:B			
<i>Nymphalis polychloros</i>	large tortoiseshell	WCA5			
<i>Omalius rugatum</i>		Notable			
<i>Oncocera semirubella</i>	rosy-striped knot-horn	Notable:B			
<i>Oria musculosa</i>	brighton wainscot	S41			
<i>Orthochaetes setiger</i>		Notable:B			
<i>Orthonama vittata</i>	oblique carpet	S41			
<i>Orthosia gracilis</i>	powdered quaker	S41			
<i>Osmia (Neosmia) bicolor</i>	red-tailed mason bee	Notable:B			
<i>Osphya bipunctata</i>		NS			
<i>Oxystoma cerdo</i>		Notable:B			
<i>Pechipogo strigilata</i>	common fan-foot	S41			
<i>Perizoma albulata</i>	grass rivulet	S41			
<i>Phytoecia cylindrica</i>		Notable:B			
<i>Platypus cylindrus</i>	pinhole borer	Notable:B			
<i>Poecilium alni</i>		Notable:B			
<i>Polydrusus (Chrysophis) formosus</i>		Notable:A			
<i>Polydrusus (Eustolus) flavipes</i>		Notable:B			

<i>Polyommatus coridon</i>	chalk hill blue	WCA5			
<i>Protapion varipes</i>		Notable:B			
<i>Psylliodes luteola</i>		NS			
<i>Pterostichus (Pseudomaseus) anthracinus</i>		NS, Notable:B			
<i>Pyrgus malvae</i>	grizzled skipper	S41, GB RDB(VU)			
<i>Rhinocyllus conicus</i>		Notable:A			
<i>Rhizedra lutosa</i>	large wainscot	S41			
<i>Satyrium pruni</i>	black hairstreak	WCA5, GB RDB(EN)			
<i>Satyrium w-album</i>	white-letter hairstreak	WCA5, S41, GB RDB(EN)			
<i>Schoenobius gigantella</i>	giant water-veneer	Notable:B			
<i>Scotopteryx bipunctaria</i>	chalk carpet	S41			
<i>Scotopteryx chenopodiata</i>	shaded broad-bar	S41			
<i>Sitochroa palealis</i>	sulphur pearl	Notable			
<i>Sphecodes rubicundus</i>	red-tailed blood bee	Notable:A			
<i>Spilosoma lubricipeda</i>	white ermine	S41			
<i>Spilosoma lutea</i>	buff ermine	S41			
<i>Squamapion cineraceum</i>		Notable:A			
<i>Stenus (Stenus) pusillus</i>		Notable:B			
<i>Stratiomys longicornis</i>	long-horned general	NS			
<i>Temnocerus coeruleus</i>		Notable:B			
<i>Temnocerus longiceps</i>		Notable:B			
<i>Thecla betulae</i>	brown hairstreak	WCA5, S41, GB RDB(VU)			
<i>Tholera decimalis</i>	feathered gothic	S41			
<i>Timandra comae</i>	blood-vein	S41			
<i>Tipula helvola</i>		Notable			
<i>Trichiura crataegi</i>	pale eggar	S41			
<i>Tyria jacobaeae</i>	cinnabar	S41			
<i>Watsonalla binaria</i>	oak hook-tip	S41			
<i>Xanthorhoe decoloraria</i>	red carpet	S41			

<i>Xanthorhoe ferrugata</i>	dark-barred twin-spot carpet	S41			
Fish					
<i>Cobitis taenia</i>	spined loach	S41			
Amphibians					
<i>Triturus cristatus</i>	great crested newt	EPS(Sch2), WCA5, S41	2021	X	X
<i>Bufo bufo</i>	common toad	WCA5, S41			
<i>Lissotriton helveticus</i>	palmate newt	WCA5			
<i>Lissotriton vulgaris</i>	smooth newt	WCA5			
<i>Rana temporaria</i>	common frog	WCA5			
Reptiles					
<i>Anguis fragilis</i>	slow-worm	WCA5, S41	2018		
<i>Natrix helvetica</i>	grass snake	WCA5, S41	2018	X	
<i>Zootoca vivipara</i>	common lizard	WCA5, S41	2020	X	
Birds					
<i>Accipiter gentilis</i>	goshawk	WCA1.1	2015	X	
<i>Acanthis cabaret</i>	lesser redpoll	S41, Red			
<i>Acanthis flammea</i>	common (mealy) redpoll	Amber, GB RDB(CR)			
<i>Accipiter nisus</i>	sparrowhawk	Amber			
<i>Acrocephalus paludicola</i>	aquatic warbler	S41			
<i>Acrocephalus schoenobaenus</i>	sedge warbler	Amber			
<i>Actitis hypoleucos</i>	common sandpiper	Amber, GB RDB(VU)			
<i>Alauda arvensis</i>	skylark	S41, Red			
<i>Alcedo atthis</i>	kingfisher	WCA1.1	2020		
<i>Anas acuta</i>	pintail	WCA1.2, Amber, GB RDB(CR)	2020		
<i>Anas crecca</i>	teal	Amber			
<i>Anas platyrhynchos</i>	mallard	Amber			
<i>Anser albifrons</i>	white-fronted goose	Red, GB RDB(CR)			
<i>Anser anser</i>	greylag goose	WCA1.2, Amber	2021		
<i>Anser brachyrhynchus</i>	pink-footed goose	Amber			
<i>Anthus pratensis</i>	meadow pipit	Amber			
<i>Anthus trivialis</i>	tree pipit	S41, Red			
<i>Apus apus</i>	swift	Red, GB RDB(EN)			

<i>Ardea alba</i>	great white egret	Amber			
<i>Arenaria interpres</i>	turnstone	Amber, GB RDB(VU)			
<i>Asio flammeus</i>	short-eared owl	Amber, GB RDB(EN)			
<i>Aythya ferina</i>	pochard	Red, GB RDB(EN)			
<i>Aythya marila</i>	scaup	WCA1.1, S41, Red, GB RDB(EN)	2017		
<i>Botaurus stellaris</i>	bittern	WCA1.1, S41, Amber, GB RDB(VU)	2020		
<i>Branta bernicla</i>	brent goose	S41, Amber			
<i>Branta leucopsis</i>	barnacle goose	Amber			
<i>Bubulcus ibis</i>	cattle egret	Amber			
<i>Bucephala clangula</i>	goldeneye	WCA1.2, Red, GB RDB(VU)	2019		
<i>Calidris alba</i>	sanderling	Amber			
<i>Calidris alpina</i>	dunlin	Red, GB RDB(EN)			
<i>Calidris ferruginea</i>	curlew sandpiper	Amber			
<i>Calidris pugnax</i>	ruff	WCA1.1, Red, GB RDB(CR)	2011		
<i>Cettia cetti</i>	Cetti's warbler	WCA1.1	2020		
<i>Charadrius dubius</i>	little ringed plover	WCA1.1	2017		
<i>Charadrius hiaticula</i>	ringed plover	Red, GB RDB(VU)			
<i>Chlidonias niger</i>	black tern	WCA1.1	2019		
<i>Chloris chloris</i>	greenfinch	Red, GB RDB(EN)			
<i>Chroicocephalus ridibundus</i>	black-headed gull	Amber, GB RDB(VU)			
<i>Circus aeruginosus</i>	marsh harrier	WCA1.1, Amber	2019		
<i>Circus cyaneus</i>	hen harrier	WCA1.1, S41, Red, GB RDB(VU)	2016		
<i>Clangula hyemalis</i>	long-tailed duck	WCA1.1, Red	2009		
<i>Coccothraustes coccothraustes</i>	hawfinch	S41, Red, GB RDB(EN)			
<i>Columba oenas</i>	stock dove	Amber			
<i>Columba palumbus</i>	woodpigeon	Amber			
<i>Corvus frugilegus</i>	rook	Amber			
<i>Coturnix coturnix</i>	quail	WCA1.1, Amber	2014		
<i>Cuculus canorus</i>	cuckoo	S41, Red, GB RDB(VU)			
<i>Curruca communis</i>	whitethroat	Amber			
<i>Cygnus columbianus</i>	tundra swan	WCA1.1, S41, Red, GB RDB(CR)	2010		
<i>Cygnus cygnus</i>	whooper swan	WCA1.1, Amber, GB RDB(EN)	2017		
<i>Delichon urbicum</i>	house martin	Red, GB RDB(VU)			

<i>Dryobates minor</i>	lesser spotted woodpecker	S41, Red, GB RDB(EN)			
<i>Emberiza citrinella</i>	yellowhammer	S41, Red			
<i>Emberiza schoeniclus</i>	reed bunting	S41, Amber			
<i>Falco columbarius</i>	merlin	WCA1.1, Red, GB RDB(EN)	2020	X	
<i>Falco peregrinus</i>	peregrine	WCA1.1	2020	X	
<i>Falco subbuteo</i>	hobby	WCA1.1	2020		
<i>Falco tinnunculus</i>	kestrel	Amber, GB RDB(VU)			
<i>Ficedula hypoleuca</i>	pie flycatcher	Amber, GB RDB(VU)			
<i>Fringilla montifringilla</i>	brambling	WCA1.1	2019	X	
<i>Fulmarus glacialis</i>	fulmar	Amber			
<i>Gallinago gallinago</i>	snipe	Amber			
<i>Gallinula chloropus</i>	moorhen	Amber, GB RDB(VU)			
<i>Gavia arctica</i>	black-throated diver	WCA1.1, Amber, GB RDB(VU)	2008		
<i>Gavia immer</i>	great northern diver	WCA1.1, Amber	2020		
<i>Gulosus aristotelis</i>	shag	Red, GB RDB(EN)			
<i>Haematopus ostralegus</i>	oystercatcher	Amber			
<i>Hydrobates leucorhous</i>	Leach's petrel	WCA1.1, Red	2016		
<i>Hydrobates pelagicus</i>	storm petrel	Amber			
<i>Hydrocoloeus minutus</i>	little gull	WCA1.1	2019		
<i>Ichthyaetus melanocephalus</i>	Mediterranean gull	WCA1.1, Amber	2020		
<i>Jynx torquilla</i>	wryneck	WCA1.1	2016		
<i>Larus argentatus</i>	herring gull	S41, Red, GB RDB(EN)			
<i>Larus cachinnans</i>	Caspian gull	Amber, GB RDB(VU)			
<i>Larus canus</i>	common gull	Amber			
<i>Larus fuscus</i>	lesser black-backed gull	Amber			
<i>Larus glaucooides</i>	Iceland gull	Amber, GB RDB(VU)			
<i>Larus hyperboreus</i>	glaucous gull	Amber, GB RDB(VU)			
<i>Larus marinus</i>	great black-backed gull	Amber, GB RDB(EN)			
<i>Larus michahellis</i>	yellow-legged gull	Amber, GB RDB(EN)			
<i>Limosa lapponica</i>	bar-tailed godwit	Amber			
<i>Limosa limosa</i>	black-tailed godwit	WCA1.1, S41, Red, GB RDB(EN)	2015		
<i>Linaria cannabina</i>	linnet	S41, Red			

<i>Locustella naevia</i>	grasshopper warbler	S41, Red			
<i>Luscinia megarhynchos</i>	nightingale	Red, GB RDB(VU)			
<i>Mareca penelope</i>	wigeon	Amber			
<i>Mareca strepera</i>	gadwall	Amber			
<i>Melanitta nigra</i>	common scoter	WCA1.1, S41, Red, GB RDB(CR)	2018		
<i>Mergellus albellus</i>	smew	Red, GB RDB(CR)			
<i>Mergus serrator</i>	red-breasted merganser	Amber, GB RDB(VU)			
<i>Milvus milvus</i>	red kite	WCA1.1	2021	X	
<i>Morus bassanus</i>	gannet	Amber			
<i>Motacilla cinerea</i>	grey wagtail	Amber			
<i>Motacilla flava</i>	yellow wagtail	S41, Red			
<i>Motacilla flava flavissima</i>	yellow wagtail	S41, Red			
<i>Muscicapa striata</i>	spotted flycatcher	S41, Red			
<i>Numenius arquata</i>	curlew	S41, Red, GB RDB(EN)			
<i>Numenius phaeopus</i>	whimbrel	WCA1.1, Red, GB RDB(CR)	2018		
<i>Oenanthe oenanthe</i>	wheatear	Amber			
<i>Pandion haliaetus</i>	osprey	WCA1.1, Amber	2018		
<i>Panurus biarmicus</i>	bearded tit	WCA1.1	2020		
<i>Passer domesticus</i>	house sparrow	S41, Red			
<i>Passer montanus</i>	tree sparrow	S41, Red, GB RDB(VU)			
<i>Perdix perdix</i>	grey partridge	S41, Red, GB RDB(VU)			
<i>Phalaropus lobatus</i>	red-necked phalarope	WCA1.1, Red, GB RDB(EN)	2005		
<i>Phoenicurus phoenicurus</i>	redstart	Amber			
<i>Phylloscopus sibilatrix</i>	wood warbler	S41, Red, GB RDB(VU)			
<i>Phylloscopus trochilus</i>	willow warbler	Amber			
<i>Pluvialis squatarola</i>	grey plover	Amber, GB RDB(VU)			
<i>Podiceps auritus</i>	Slavonian grebe	WCA1.1, Red, GB RDB(CR)	2011		
<i>Podiceps grisegena</i>	red-necked grebe	Red, GB RDB(CR)			
<i>Podiceps nigricollis</i>	black-necked grebe	WCA1.1, Amber, GB RDB(EN)	2019		
<i>Poecile montanus</i>	willow tit	S41, Red, GB RDB(EN)			
<i>Poecile palustris</i>	marsh tit	S41, Red, GB RDB(VU)			

<i>Prunella modularis</i>	dunnock	S41, Amber			
<i>Pyrrhula pyrrhula</i>	bullfinch	S41, Amber			
<i>Recurvirostra avosetta</i>	avocet	WCA1.1, Amber	2006		
<i>Regulus ignicapilla</i>	firecrest	WCA1.1	2013		
<i>Rissa tridactyla</i>	kittiwake	Red, GB RDB(CR), OSPAR			
<i>Saxicola rubetra</i>	whinchat	Red			
<i>Scolopax rusticola</i>	woodcock	Red, GB RDB(VU)			
<i>Spatula clypeata</i>	shoveler	Amber			
<i>Spatula querquedula</i>	garganey	WCA1.1, Amber, GB RDB(CR)	2020		
<i>Stercorarius parasiticus</i>	Arctic skua	Red, GB RDB(CR)			
<i>Stercorarius skua</i>	great skua	Amber			
<i>Sterna hirundo</i>	common tern	Amber			
<i>Sterna paradisaea</i>	Arctic tern	Amber, GB RDB(VU)			
<i>Sternula albifrons</i>	little tern	WCA1.1, Amber, GB RDB(VU)	2009		
<i>Streptopelia turtur</i>	turtle dove	S41, Red, GB RDB(CR)			
<i>Strix aluco</i>	tawny owl	Amber			
<i>Sturnus vulgaris</i>	starling	S41, Red, GB RDB(VU)			
<i>Tadorna tadorna</i>	shelduck	Amber, GB RDB(EN)			
<i>Thalasseus sandvicensis</i>	sandwich tern	Amber			
<i>Tringa erythropus</i>	spotted redshank	Amber, GB RDB(EN)			
<i>Tringa glareola</i>	wood sandpiper	WCA1.1, Amber, GB RDB(EN)	2011		
<i>Tringa nebularia</i>	greenshank	WCA1.1, Amber	2017		
<i>Tringa ochropus</i>	green sandpiper	WCA1.1, Amber, GB RDB(EN)	2020		
<i>Tringa totanus</i>	redshank	Amber, GB RDB(VU)			
<i>Troglodytes troglodytes</i>	wren	Amber			
<i>Turdus iliacus</i>	redwing	WCA1.1, Amber, GB RDB(CR)	2021	X	
<i>Turdus philomelos</i>	song thrush	S41, Amber			
<i>Turdus pilaris</i>	fieldfare	WCA1.1, Red, GB RDB(CR)	2021	X	
<i>Turdus torquatus</i>	ring ouzel	S41, Red, GB RDB(VU)			
<i>Turdus viscivorus</i>	mistle thrush	Red, GB RDB(VU)			
<i>Tyto alba</i>	barn owl	WCA1.1	2020	X	
<i>Upupa epops</i>	hoopoe	WCA1.1	2018		
<i>Vanellus vanellus</i>	lapwing	S41, Red, GB RDB(EN)			

Mammals					
<i>Arvicola amphibius</i>	water vole	WCA5, S41, GB RDB(EN)	2000		
<i>Barbastella barbastellus</i>	western barbastelle	EPS(Sch2), WCA5, S41, GB RDB(VU)	2020		
<i>Chiroptera</i>	bat	EPS(Sch2)	2018	X	
<i>Eptesicus serotinus</i>	serotine	EPS(Sch2), WCA5, GB RDB(VU)	2012		
<i>Lutra lutra</i>	otter	EPS(Sch2), WCA5, S41	2020		
<i>Meles meles</i>	badger	BA	2019	X	
<i>Myotis</i>	myotis bat species	EPS(Sch2), WCA5	2020	X	
<i>Myotis bechsteinii</i>	Bechstein's bat	EPS(Sch2), WCA5, S41	2016	X	
<i>Myotis brandtii</i>	Brandt's bat	EPS(Sch2), WCA5	2016	X	
<i>Myotis daubentonii</i>	Daubenton's bat	EPS(Sch2), WCA5	2014	X	
<i>Myotis mystacinus</i>	whiskered bat	EPS(Sch2), WCA5	2020	X	
<i>Myotis mystacinus/brandtii</i>	whiskered/Brandt's bat	EPS(Sch2), WCA5	2011	X	
<i>Myotis nattereri</i>	Natterer's bat	EPS(Sch2), WCA5	2020	X	
<i>Nyctalus leisleri</i>	Leisler's bat	EPS(Sch2), WCA5	2020		
<i>Nyctalus noctula</i>	noctule bat	EPS(Sch2), WCA5, S41	2020	X	
<i>Pipistrellus</i>	pipistrelle bat species	EPS(Sch2), WCA5	2020		
<i>Pipistrellus nathusii</i>	Nathusius's pipistrelle	EPS(Sch2), WCA5	2020		
<i>Pipistrellus pipistrellus</i>	pipistrelle	EPS(Sch2), WCA5	2020	X	
<i>Pipistrellus pygmaeus</i>	soprano pipistrelle	EPS(Sch2), WCA5, S41	2020	X	
<i>Plecotus auritus</i>	brown long-eared bat	EPS(Sch2), WCA5, S41	2022	X	

Appendix C – Abbreviations

Table 6 displays abbreviations of protected species legislation.




Table 6 Glossary of abbreviations used in this report

Code	Full Title	Explanation
Amber	Amber list	Amber listed species have a population status in the UK of medium conservation concern.
BAP	Biodiversity action plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
ENG BSBI RDB	A Vascular Plant Red List for England	A list published in 2014 by the Botanical Society of Britain and Ireland of the red list status of plants in England. Measured against standardised IUCN criteria.
ENG BSBI RDB(CR)	Critically endangered	A BSBI Red List designation for species at an extremely high risk of extinction.
ENG BSBI RDB(EN)	Endangered	A BSBI Red List designation for species at a very high risk of extinction.
ENG BSBI RDB(VU)	Vulnerable	A BSBI Red List designation for species at high risk of extinction.
EPS (Sch 2)	European protected species (Schedule 2)	European protected species of animals, listed on Schedule 2 of The Conservation of Habitats and Species Regulations 2017.
EPS (Sch 5)	European protected species (Schedule 5)	European protected species of plants, listed on Schedule 5 of The Conservation of Habitats and Species Regulations 2017.
GB RDB	Red data book species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.
IUCN	International Union for Conservation of Nature and Natural Resources	A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.
LBAP	Local biodiversity action plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
Notable: A	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties.
Notable: B	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in

		between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties.
NR	Nationally rare	Species in 15 or fewer hectads in Great Britain.
NS	National scarce	Species in 16-100 hectads in Great Britain.
Red	Red list	Red listed species have a population status in the UK with high conservation concern.
S41	Species of principal importance	Species of Principal Importance in England under The Natural Environment and Rural Communities (NERC) Act (2006)
UKBAP	UK biodiversity action plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in species action plans and habitat action plans to enhance or maintain biodiversity in the UK.
WCA	The Wildlife and Countryside Act 1981 (as amended)	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the local authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (<i>e.g.</i> S13(2)).
WCA1	Schedule 1 of The Wildlife and Countryside Act 1981 (as amended)	This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law. Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity. Schedule 1 WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.
WCA5	Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale, possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (<i>e.g.</i> S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of The Wildlife and Countryside Act 1981 (as amended)	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), <i>etc.</i>

Appendix D – Target Notes

The locations of the following target notes are shown in Figure 5.

Target Note number	Description	Photo
1	Mammal path through hedge.	
2	Mammal path through hedge.	
3	Potential bat roost tree, broken limbs, multiple holes and cracks in bark.	

4 Mammal path in hedge.



5 Group of mature Poplar with bat potential.



6 Group of mature Oaks with bat potential.



- 7** Group of mature Poplar with bat potential.



- 8** Group of mature Poplar and Oak with bat potential.



- 9 Yellow meadow anthill in hedge.



- 10 Large Poplar, bat potential.

- 11 Mature Poplars, low roost potential.



- 12 Mature Poplar with some ivy coverage and limited dead wood. Low bat roost potential.



- 13** Poplar with split. Bat roost potential.



- 14** Mammal path.



- 15** Slow flow from South to North. Deep and heavily vegetated. Access challenging.



- 16** Mature Poplars. Low bat roost potential.



17

[REDACTED]

[REDACTED]

18

[REDACTED]

[REDACTED]

19 Ash dieback.



20 Brown hare.

21 Oak tree with bat roost potential.



22 Mature oak, bat roost potential.



- 23** Group of ash trees along hedgerow with bat roost potential.



- 24** Ash tree bat roost potential.

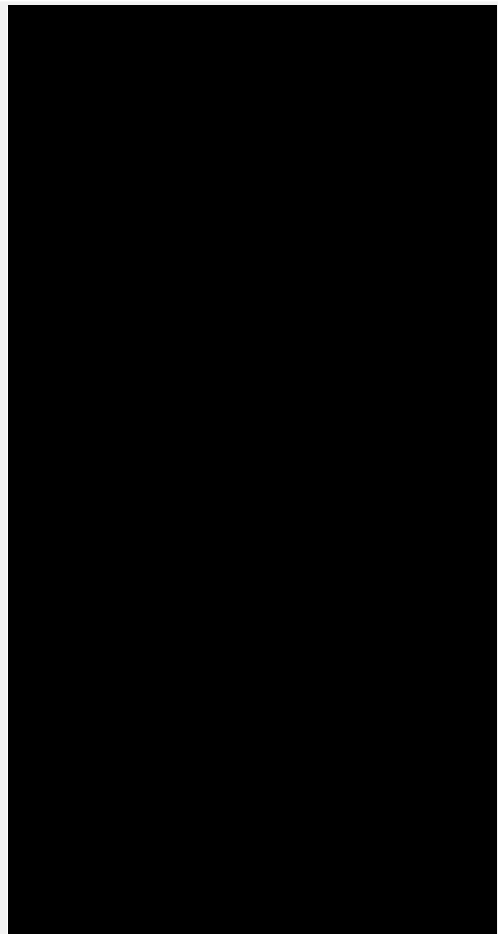


- 25** Dry pond, only small pools of stagnant water.



26

[REDACTED]



27

Ash, bat roost potential.



28 Standing deadwood.



29 Young scattered trees planted
Hazel, Blackthorn Rowan, Willow,
Elm, Hawthorn.



30 Oak, bat tree potential.



- 31** Mature Oak with ivy. Low bat roost potential.



- 32** Line of Oaks in hedge. Bat roost potential.



- 33** Mature Oak, with bat roost potential.



34 Cinnabar moth.



35 Marbled white, meadow brown.

36 Ringlet.

37 Comma.

38 Dead wood resource.



39 Bat roost potential.



40 Rabbit warren.

- 41** Old barn, collapsing, wood structure with tin roof. Limited bat potential.



- 42** Bat roost potential.



- 43** Gatekeeper.

- 44** Yellow meadow ant tussocks.

- 45** Dead wood features on tree. Bat roost potential.

- 46** Rabbit warren.

- 47** Dead wood resource. Good for bats and inverts.



48 Mature Oak. Bat roost potential.



49 Bat roost potential.



50 Multiple Oak trees along hedge with bat roost potential



51 Standing and fallen dead wood. Invert and bat features. Woodpecker activity.



52 Bat roost potential.



53 Bat roost potential.



54 Bat roost potential.



55 Potential outlier sett.



56 Standing deadwood resource. Bat and inverts,



57 Bat roost potential.



58 Brown hare.

59 Fallen dead wood.



60 Bat roost potential.



61 Multiple honeybee hives.



62 Small heath butterfly.

63 Area good for reptiles and inverts.
Large white, marbled white, small skipper, ringlet, small tortoiseshell, gatekeeper, meadow brown.

64 Bat roost potential.



65 Lots of deadwood features. Bat and invert potential



66 Fallen willow trunk.



67 Good butterfly activity. Marbled white, meadow brown, large skipper, ringlet.

68 Potential dry pond.



69 Bat roost potential.



70 Dead wood feature. Bat and invert potential.



- 71** Trees with bat roost features just outside boundary.



- 72** Dead wood resource.



- 73** High butterfly activity - gatekeeper, marbled white, small skipper, large skipper, purple hairstreak, meadow brown, ringlet.

- 74** Bat roost potential.



75 Bat roost potential.



Appendix E – Hedgerow Regulation Assessment Details

This appendix provides details of the assessment under the Wildlife and Landscape Criteria of the hedgerow regulations assessment. These Regulations only apply to hedgerows adjacent to land in agricultural/horticultural use. A hedgerow may be classified as ‘important’ for archaeological/historical reasons, or according to Wildlife and Landscape criteria. To be classified as ‘important’ under the Wildlife and Landscape criteria, the hedgerow must have been over 30 years old in 1997 and should comprise one of the following:

- at least 7 woody species/30m;
- at least 6 woody species/30m and at least 3 features;
- at least 6 woody species/30m including any one black poplar/wild service-tree/small-leaved lime/large-leaved lime;
- at least 5 woody species and at least 4 features; or
- if adjacent to a bridleway/footpath, at least 4 woody species and at least 2 features.

The presence of a number of features along a hedgerow influences the classification under the Regulations. The terms used on the record sheet are explained below.

Table 7. ‘Features’ relevant to the Wildlife and Landscape criteria of the Hedgerow Regulations

Feature	Description
Bank/wall	The hedgerow is supported along at least half of its length by a bank/wall.
Intact	The hedgerow contains less than 10% gaps along its length.
Trees	The hedgerow supports at least 1 standard tree per 50m length of hedgerow (standard trees are defined as those which when measured at 1.3m above ground level and have a diameter of at least 20cm, or 15cm for multi-stemmed trees).
3 flora species	The hedgerow supports at least 3 of the valuable ground flora species defined by the Regulations. The hedgerow is considered to support a plant if it is rooted within 1m (in any direction) of the hedgerow.
Ditch	There is a ditch along at least half of the length of the hedgerow.
Connection ≥	A hedgerow must score 4 or more ‘connection points’ where connections with an adjoining hedgerow(s) score 1 point each, and a connection with a pond or woodland (in which the majority of the trees are broad-leaved) scores 2 points each. A hedgerow is considered to be connected if it meets the feature, or if it has a point within 10m of it and would meet if the line of the hedgerow continued.
Parallel hedgerow	A parallel hedgerow is present within 15m.

N.B A hedgerow may also be classified as 'important' due to the presence/recorded presence of a particular animal and plant species (see Criteria 6 subparagraphs (1)-(4) of the Regulations for details). This has not been considered in our assessment as we do not currently have data of this type that could contribute to the assessment.

Table 8. Colour codes

Colour code used	Meaning of colour code
	Hedgerow not important
	Important Hedgerow

Hedgerow number	H1	H2	H3	H4	H5	H6	H7	H8
Does the hedgerow classify as 'Important'	No	No	No	No	No	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	✓	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	x	X	X	X
No of woody species per 30m	4	5	2	3	3	3	4	3
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Elm, Ash, White Willow, Crab Apple, Field Maple	Hawthorn, Blackthorn, Rose, Ash, Oak	Hawthorn, Rose	Hawthorn, Rose, Grey Willow	Hawthorn, Rose, Blackthorn, Elm	Elm, Blackthorn, Hawthorn, Rose	Hawthorn, Blackthorn, Elm, Rose	Hawthorn, Blackthorn, Rose
Other woody species present	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N.A
Features	Bank/wall	✓	X	X	X	X	X	X
	Intact	✓	X	✓	✓	X	X	✓
	Trees	✓	✓	X	X	X	X	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	X	✓	✓	✓	X	X	✓
	Connections	4	5	5	5	4	3	3
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H9	H10	H11	H12	H13	H14	H15	H16
Does the hedgerow classify as 'Important'	No	No	No	No	No	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	✓	X	✓	✓	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	x	X	X	X	X
No of woody species per 30m	4	4	5	3	3	5	5	4
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Elm, Rose, Field Maple	Hawthorn, Elm, Rose, Field Maple	Rose, Blackthorn, Hawthorn, Oak, Elm	Hawthorn, Field Maple, Hazel	Hawthorn, Blackthorn, Crab Apple	Hawthorn, Ash, Elm, Blackthorn, Oak, Field Maple	Hawthorn, Blackthorn, Elm, Oak, Field Maple	Hawthorn, Elm, Rose, Field Maple
Other woody species present	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	X	X	✓	✓	✓	✓	X
	Trees	X	X	X	X	X	✓	✓
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	✓	✓	X	X	X	X
	Connections	2	2	4	2	3	3	5
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H17	H18	H19	H20	H21	H22	H23	H24
Does the hedgerow classify as 'Important'	No	No	No	No	No	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	5	5	2	3	4	4	3	2
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Malus Spp., Field Maple, Ash	Hawthorn, Blackthorn, Oak, Malus Spp., Ash	Hawthorn, Rose	Hawthorn, Blackthorn, Ash	Hawthorn, Blackthorn, Ash, Rose	Hawthorn, Blackthorn, Ash, Pedunculate Oak	Hawthorn, Blackthorn, Rose	Ash, Blackthorn
Other woody species present	Bramble	Bramble	Bramble	Bramble	N/A	N/A	N/A	Bramble
Features								
Bank/wall	X	X	X	X	X	X	X	X
Intact	X	X	✓	✓	✓	✓	X	✓
Trees	X	✓	X	✓	X	✓	X	✓
3 flora species	X	X	X	X	X	X	X	X
Ditch	X	✓	X	✓	✓	✓	✓	X
Connections	5	3	4	4	4	4	2	4
Parallel hedgerow	X	X	X	X	X	X	X	X

Hedgerow number	H25	H26	H27	H28	H29	H30	H31	H32
Does the hedgerow classify as 'Important'	Yes	No	No	No	No	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	x
No of woody species per 30m	5	4	5	4	2	3	2	5
Woody species present recognised by the Hedgerow Regulations	Ash, Blackthorn, Oak, Elder, Hawthorn	Hawthorn, Rose, Elder, Blackthorn	Elm, Hawthorn, Blackthorn, Ash, Elder and Oak	Ash, Blackthorn, Hawthorn, Hazel	Blackthorn, Hawthorn	Ash, Blackthorn, Hawthorn	Hawthorn, Oak	Blackthorn, Rose, Hawthorn, Field Maple, Ash
Other woody species present	Bramble	Bramble	N/A	Bramble	Bramble	Bramble	Bramble	Bramble
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	X	✓	✓	✓	✓
	Trees	✓	X	✓	✓	✓	✓	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	✓	X	X	X	✓	✓
	Connections	4	2	3	4	4	3	4
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H33	H34	H35	H36	H37	H38	H39	H40
Does the hedgerow classify as 'Important'	No	No	Yes	No	No	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	4	5	6	2	5	4	3	3
Woody species present recognised by the Hedgerow Regulations	Ash, Hawthorn, Blackthorn, Oak	Field Maple, Oak, Rose, Blackthorn, Elder	Hazel, Oak, Field Maple, Hawthorn, Blackthorn, Ash,	Hawthorn, Blackthorn	Elm, Hawthorn, Dogwood, Blackthorn, Ash	Blackthorn, Ash, Rose, Hawthorn	Blackthorn, Elder, Hawthorn	Blackthorn, Ash, Rose, Hawthorn
Other woody species present	Bramble	N/A	Bramble	Bramble	Bramble	Bramble	Bramble	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	X	✓	✓	✓	✓	✓
	Trees	✓	✓	✓	X	X	X	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	X	X	✓	X	X	X	✓
	Connections	4	3	2	5	4	4	5
	Parallel hedgerow	X	X	X	x	X	X	x

Hedgerow number	H41	H42	H43	H44	H45	H46	H47	H48
Does the hedgerow classify as 'Important'	No	No	No	No	No	No	No	Yes
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	4	5	5	5	3	4	5	7
Woody species present recognised by the Hedgerow Regulations	Blackthorn, Ash, Field Maple, Hawthorn	Rose, Hawthorn, Blackthorn, Ash, Willow	Blackthorn, Hawthorn, Ash, Rose, Field Maple	Rose, Elm, Hawthorn, Blackthorn, Oak, Ash	Hawthorn, Oak, Blackthorn	Hawthorn, Blackthorn, Rose, Dogwood	Hawthorn, Rose, Wild Privet, Blackthorn, Elder	Hawthorn, Blackthorn, Oak, Ash, Elm, Rose, Field Maple
Other woody species present	Bramble	Bramble	Bramble	N/A	Bramble	Bramble	N/A	Bramble
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	X	✓	✓	✓
	Trees	✓	X	X	✓	✓	X	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	✓	✓	✓	X	X	X
	Connections	6	3	3	3	3	2	3
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H49	H50	H51	H52	H53	H54	H55	H56
Does the hedgerow classify as 'Important'	No	No	Yes	No	Yes	No	No	Yes
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	5	3	5	5	6	5	3	6
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Elder, Ash, Rose, Crab Apple	Hawthorn, Blackthorn, Field Maple	Hawthorn, Blackthorn, Rose, Oak, Ash	Hawthorn, Blackthorn, Rose, Field Maple, Ash	Dogwood, Hawthorn, Elm, Blackthorn, Poplar, Oak, Rose	Blackthorn, Poplar, Ash, Oak, Rose, Hawthorn	Blackthorn, Hawthorn, Rose, Ash	Hawthorn, Blackthorn, Pedunculate Oak, Field Maple, Elm, Rose
Other woody species present	N/A	Bramble	Bramble	N/A	Bramble	N/A	N/A	Cypress, Bramble
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	✓	✓	✓	✓
	Trees	✓	X	✓	X	✓	X	✓
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	✓	✓	✓	X	✓	X
	Connections	2	3	4	4	5	3	2
	Parallel hedgerow	X	X	✓	X	✓	X	X

Hedgerow number	H57	H58	H59	H60	H61	H62	H63	H64	
Does the hedgerow classify as 'Important'	Yes	No	No	No	No	Yes	No	No	
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X	
No of woody species per 30m	7	4	1	5	2	6	5	4	
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Oak, Field Maple, Blackthorn, Elm, Rose, Elder	Hawthorn, Blackthorn, Rose, Willow	Blackthorn	Hawthorn, Blackthorn, Field Maple, Rose, Willow	Blackthorn, Hawthorn	Hawthorn, Blackthorn, Rose, Field Maple, Oak, Ash, Willow	Hawthorn, Blackthorn, Spindle, Rose, Pedunculate Oak	Hawthorn, Blackthorn, Rose, Pedunculate Oak	
Other woody species present	Bramble	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	✓	✓	✓	✓	✓	✓	
	Trees	X	X	X	X	X	✓	✓	X
	3 flora species	X	X	X	X	X	X	X	X
	Ditch	X	✓	✓	✓	✓	✓	✓	✓
	Connections	3	3	1	3	4	4	3	3
	Parallel hedgerow	X	✓	✓	X	X	X	X	X

Hedgerow number	H65	H66	H67	H68	H69	H70	H71	H72
Does the hedgerow classify as 'Important'	Yes	Yes	No	Yes	No	No	Yes	Yes
Does the hedgerow run parallel to a designated bridleway/footpath	✓	X	X	✓	✓	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	✓	X	X	X	X	X	X
No of woody species per 30m	6	5	5	5	5	3	6	5
Woody species present recognised by the Hedgerow Regulations	Oak, Ash, Hawthorn, Blackthorn, Field Maple, Rose, Elder	Hawthorn, Blackthorn, Rose, Field Maple, Pedunculate Oak, Hazel	Hawthorn, Blackthorn, Rose, Field Maple, Pedunculate Oak, Hazel	Oak, Ash, Hawthorn, Blackthorn, Field Maple, Rose	Oak, Ash, Elm, Blackthorn, Hawthorn, Rose	Hawthorn, Blackthorn, Rose, Hazel	Hawthorn, Blackthorn, Willow, Oak, Ash, Spindle	Elder, Blackthorn, Hawthorn, Rose, Elm, Oak
Other woody species present	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	✓	✓	X	✓
	Trees	✓	X	✓	✓	X	X	✓
	3 flora species	X	X	X	X	X	X	X
	Ditch	X	✓	X	✓	✓	X	✓
	Connections	5	5	4	4	3	4	4
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H73	H74	H75	H76	H77	H78	H79	H80
Does the hedgerow classify as 'Important'	No	No	No	No	Yes	No	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	✓	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	5	4	3	4	5	5	4	2
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Dogwood, Oak, Ash	Hawthorn, Blackthorn, Rose, Elder, Hazel, Ash	Blackthorn, Hawthorn, Rose	Blackthorn, Hawthorn, Field Maple, Rose	Rose, Hawthorn, Blackthorn, Ash, Oak	Hawthorn, Blackthorn, Field Maple, Spindle, Elm, Rose, Ash	Hawthorn, Field Maple, Dogwood, Blackthorn	Hawthorn, Blackthorn
Other woody species present	Bramble	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	✓	✓	✓	✓
	Trees	✓	X	X	X	✓	✓	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	X	✓	✓	✓	X	X	X
	Connections	6	5	2	4	3	5	3
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H81	H82	H83	H84	H85	H86	H87	H88
Does the hedgerow classify as 'Important'	No	Yes	No	Yes	No	Yes	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	✓	✓	X	✓	✓	✓	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	5	4	5	4	5	6	4	6
Woody species present recognised by the Hedgerow Regulations	Field Maple, Hawthorn, Blackthorn, Elder, Ash, Pedunculate Oak	Hawthorn, Blackthorn, Elder, Field Maple, Rose	Hawthorn, Blackthorn, Spindle, Elder, Ash, Oak, Field Maple	Hawthorn, Blackthorn, Field Maple, Ash, Elder	Hawthorn, Blackthorn, Field Maple, Ash, Elder	Hawthorn, Blackthorn, Rose, Elm, Ash, Oak	Hawthorn, Blackthorn, Elder, Ash, Rose, Elm	Hawthorn, Blackthorn, Elm, Hazel, Field Maple, Rose, Ash
Other woody species present	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	✓	✓	✓	✓
	Trees	✓	X	X	✓	✓	✓	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	✓	X	X	X	X	X
	Connections	3	3	2	5	4	4	4
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H89	H90	H91	H92	H93	H94	H95	H96
Does the hedgerow classify as 'Important'	No	No	No	No	No	Yes	No	No
Does the hedgerow run parallel to a designated bridleway/footpath	✓	✓	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X
No of woody species per 30m	6	5	5	5	5	7	5	5
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Field Maple, Rose, Crab Apple, Elm	Hawthorn, Blackthorn, Elm, Elder, Oak, Rose, Field Maple	Hawthorn, Blackthorn, Elm, Elder, Oak, Rose, Field Maple	Field Maple, Blackthorn, Hawthorn, Elm, Rose	Hawthorn, Blackthorn, Elder, Rose, Elm	Blackthorn, Hawthorn, Field Maple, Rose, Ash, Oak, White Willow, Grey/Goat Willow, Elm	Elder, Elm, Hawthorn, Blackthorn, Rose	Hawthorn, Blackthorn, Rose, Ash, Oak, Field Maple
Other woody species present	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	✓	X	✓	✓
	Trees	X	✓	✓	X	X	✓	X
	3 flora species	X	X	X	X	X	X	X
	Ditch	✓	X	✓	✓	X	✓	✓
	Connections	1	1	2	3	4	4	4
	Parallel hedgerow	X	X	X	X	X	X	X

Hedgerow number	H97	H98	H99	H100	H101	H102	H103	H104	
Does the hedgerow classify as 'Important'	No	Yes	No	Yes	Yes	No	No	No	
Does the hedgerow run parallel to a designated bridleway/footpath	X	✓	✓	X	✓	X	X	X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X	
No of woody species per 30m	5	4	6	6	4	4	5	4	
Woody species present recognised by the Hedgerow Regulations	Blackthorn, Oak, Field Maple, Ash, Rose	Rose, Dogwood, Hawthorn, Blackthorn	Rose, Elder, Hawthorn, Ash, Field Maple, Oak	Hawthorn, Blackthorn, Elm, Rose, Oak, Field Maple	Rose, Elder, Blackthorn, Field Maple	Blackthorn, Oak, Hawthorn, Rose	Blackthorn, Ash, Elm, Rose, Field Maple	Blackthorn, Hawthorn, Rose, Willow	
Other woody species present	Bramble	Bramble	Bramble	N/A	Bramble	Bramble	N/A	N/A	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	✓	✓	✓	✓	✓	✓	
	Trees	X	X	✓	✓	X	X	X	
	3 flora species	X	X	X	X	X	X	X	
	Ditch	✓	X	X	✓	✓	✓	✓	
	Connections	4	4	3	4	3	3	2	3
	Parallel hedgerow	X	X	X	X	X	X	X	X

Hedgerow number	H105	H106	H107	H108	H109	H110	H111	H112	
Does the hedgerow classify as 'Important'	Yes	No	Yes	No	No	No	Yes	Yes	
Does the hedgerow run parallel to a designated bridleway/footpath	X	✓	✓	✓	X	X	X	X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X	
No of woody species per 30m	6	5	8	3	5	5	5	5	
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Elder, Blackthorn, Field Maple, Dogwood, Rose	Oak, Blackthorn, Field Maple, Rose, Dogwood	Elder, Dogwood, Hawthorn, Rose, Field Maple, Blackthorn, Dogwood, Oak	Blackthorn, Hawthorn, Poplar Tree	Blackthorn, Ash, Rose, Field Maple, Hawthorn	Blackthorn, Hawthorn, Dogwood, Elder, Rose	Blackthorn, Hawthorn, Elder, Ash, Willow, Rose, Elm	Hawthorn, Blackthorn, Elm, Ash Oak	
Other woody species present	N/A	Bramble	N/A	Bramble	Bramble	Bramble	N/A	N/A	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	X	✓	✓	✓	✓	✓	
	Trees	X	X	X	X	✓	X	✓	
	3 flora species	X	X	X	X	X	X	X	
	Ditch	✓	X	X	X	X	✓	✓	
	Connections	4	2	5	4	4	6	5	3
	Parallel hedgerow	X	X	✓	X	X	X	X	✓

Hedgerow number	H113	H114	H115	H116	H117	H118	H119	H120	
Does the hedgerow classify as 'Important'	Yes	Yes	No	No	No	No	Yes	No	
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X		X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X	
No of woody species per 30m	5	5	5	4	3	2	4	5	
Woody species present recognised by the Hedgerow Regulations	Blackthorn, Elm, Rose, Elder, Oak	Elm, Rose, Oak, Blackthorn, Hawthorn	Blackthorn, Dogwood, Field Maple, Hawthorn, Rose	Blackthorn, Elder, Rose, Willow	Blackthorn, Hawthorn, Elm	Hawthorn, Elder	Elm, Blackthorn, Elder, Ash	Elm, Blackthorn, Hawthorn, Field Maple, Ash	
Other woody species present	N/A	Bramble	Bramble	Bramble	Bramble	Bramble	N/A	Bramble	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	✓	✓	✓	X	✓	✓	
	Trees	✓	✓	X	X	X	X	X	
	3 flora species	X	X	X	X	X	X	X	
	Ditch	X	✓	✓	✓	X	✓	X	
	Connections	4	4	4	5	3	2	4	1
	Parallel hedgerow	X	X	X	X	X	X	X	✓

Hedgerow number	H121	H122	H123	H124	H125	H126	H127	H128
Does the hedgerow classify as 'Important'	No	No	No	No	Yes	No	Yes	No
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	✓	X
No of woody species per 30m	1	3	3	0	5	5	6	3
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Ash	Hawthorn, Blackthorn, Rose	Blackthorn, Field Maple, Elder	N/A	Blackthorn, Hawthorn Elm, Field Maple, Ash	Blackthorn, Elm, Hawthorn, Ash, Field Maple	Hawthorn, Blackthorn, Elder, Ash, Lime, Elm, Hazel	Blackthorn, Hawthorn, Elm
Other woody species present	Bramble	Bramble	Bramble	Bramble	Bramble	Bramble	N/A	N/A
Features	Bank/wall	X	X	X	X	X	X	X
	Intact	✓	✓	✓	X	✓	✓	✓
	Trees	X	X	X	X	✓	X	✓
	3 flora species	X	X	X	X	X	X	X
	Ditch	X	X	✓	X	X	✓	X
	Connections	1	3	6	2	4	5	3
	Parallel hedgerow	X	X	X	X	✓	X	✓

Hedgerow number	H129	H130	H131	H132	H133	H134	H135	H136	
Does the hedgerow classify as 'Important'	No	No	Yes	No	Yes	No	No	Yes	
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X	X	X	X	X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	✓	X	X	X	X	
No of woody species per 30m	3	3	5	4	5	2	5	5	
Woody species present recognised by the Hedgerow Regulations	Hawthorn, Blackthorn, Rose	Blackthorn, Elm, Hawthorn	Hawthorn, Blackthorn, Elm, Field Maple, Oak	Hawthorn, Rose Ash, Lime	Blackthorn, Hawthorn, Rose, Oak, Ash	Hawthorn, Rose	Hawthorn, Ash, Wild Privet, Rose, Elm	Hawthorn, Elm, Blackthorn, Field Maple, Ash	
Other woody species present	Bramble	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	✓	✓	✓	✓	✓	✓	
	Trees	X	✓	✓	X	✓	X	✓	
	3 flora species	X	X	X	X	X	X	X	
	Ditch	X	X	X	✓	✓	X	✓	
	Connections	4	5	4	3	4	4	3	4
	Parallel hedgerow	X	✓	✓	X	✓	✓	✓	✓

Hedgerow number	H137	H138	H139	H140	H141	H142	H143	H144	
Does the hedgerow classify as 'Important'	Yes	No	Yes	No	No	No	No	No	
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	✓	✓	X	X	X	X	
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X	X	X	X	X	
No of woody species per 30m	6	2	6	3	4	4	5	5	
Woody species present recognised by the Hedgerow Regulations	Pedunculate Oak, Blackthorn, Elm, Hawthorn, Elder, Ash, Field Maple, Rose	Blackthorn, Hawthorn, Field Maple	Elm, Dogrose, Hawthorn, Blackthorn, Field Maple, Oak, Ash	Blackthorn, Hawthorn, Elder	Hawthorn, Blackthorn, Rose, Ash	Blackthorn, Hawthorn, Ash, Elm	Ash, Poplar, Apple Spp., Hawthorn, Blackthorn	Blackthorn, Hawthorn, Ash, Field Maple, Oak	
Other woody species present	N/A	N/A	N/A	N/A	N/A	Bramble	N/A	Bramble	
Features	Bank/wall	X	X	X	X	X	X	X	
	Intact	✓	✓	✓	✓	✓	✓	✓	
	Trees	✓	X	X	X	✓	X	X	
	3 flora species	X	X	X	X	X	X	X	
	Ditch	✓	✓	✓	X	✓	✓	✓	
	Connections	7	5	4	2	2	3	1	4
	Parallel hedgerow	X	X	X	X	X	X	X	X

Hedgerow number	H145	H146	H147	H148
Does the hedgerow classify as 'Important'	No	No	No	Yes
Does the hedgerow run parallel to a designated bridleway/footpath	X	X	X	X
Black poplar/wild service-tree/small leaved lime/large leaved lime	X	X	X	X
No of woody species per 30m	5	3	5	9
Woody species present recognised by the Hedgerow Regulations	Blackthorn, Hawthorn, Elm, Rose, Ash	Blackthorn, Hawthorn, Elm	Blackthorn, Hawthorn, Ash, Elm, Apple Spp.	Ash, Elder, Poplar, Rose, Field Maple, Blackthorn, White Willow, Crab Apple, Hawthorn
Other woody species present	N/A	Bramble	Bramble	Bramble
Features				
Bank/wall	X	X	X	X
Intact	✓	✓	✓	✓
Trees	✓	X	✓	✓
3 flora species	X	X	X	X
Ditch	✓	X	X	X
Connections	3	3	3	14
Parallel hedgerow	X	X	X	X

Appendix F – Site photographs



Photo 1: Artificial unvegetated, unsealed surface – Site 2



Photo 2: Bramble scrub – Site 2



Photo 3: Building – Site 2



Photo 4: Cereal Crops – Site 2



Photo 5: Cropland – Site 2



Photo 6: Lowland mixed deciduous woodland – Site 1



Photo 7: Mixed Scrub – Site 1



Photo 8: Modified grassland – Horse grazed – Site 3



Photo 9: Modified grassland – cattle grazed – Site 2



Photo 10: Modified grassland – Site 1



Photo 11: Non-cereal crops – Site 2



Photo 12: Other neutral grassland – Scattered scrub – Site 2



Photo 13: Other neutral grassland –
Scattered Rushes – Site 1



Photo 14: Other neutral grassland – Tall
herb – Site 1



Photo 15: Other neutral grassland – Young
trees – Site 1



Photo 16: Other neutral grassland – Site 3



Photo 17: Other woodland; broadleaved –
Site 2



Photo 18: Other woodland; broadleaved –
Plantation – Site 2



Photo 19 : Ponds (non-priority habitat) – Site 2



Photo 20: Ponds (priority habitat) – Site 2



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Appendix F-6

Otter and Water Vole Surveys June 2023 and August 2023

Rosefield Solar Farm

Otter and Water Vole Survey Report



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1. Introduction

1.1 Purpose of this report

1.1.1 RSK Biocensus were commissioned to undertake water vole (*Arvicola terrestris*) and otter (*Lutra lutra*) surveys at the four survey areas (Parcel 1, Parcel 1a, Parcel 2 and Parcel 3) including a 200 m buffer (**Figure 1**). This is in relation to the proposed solar farm scheme as described in **Section 1.2** below. The aim of the surveys was to determine the presence or likely absence of water vole and otter across the Site.

1.2 Project Overview

1.2.1 Rosefield Solar Farm is a proposed solar farm with energy storage which will generate and store renewable electricity for export to the National Grid.

1.2.2 The main features of the Proposed Development, which consist of the following elements:

- Ground mounted solar PV generating station which comprises; solar PV modules and mounting structures.
- Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear.
- Collector Compounds comprising; switchgear, transformers, ancillary equipment, and operation, maintenance and welfare facilities, and security cabins.
- Rosefield Substation compound, which will include; substation including transformers, switching and control equipment, office / control / welfare buildings, storage areas, and provisions for vehicular parking and material laydown.
- Battery Energy Storage System (BESS) compound(s) which will include; office / control / welfare buildings and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables, and fire safety infrastructure.
- Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting, landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development.
- Landscaping, habitat management, biodiversity enhancement and amenity improvements.
- Highway works to facilitate vehicular access to the Site.

2. Methods

2.1 General

- 2.1.1 RSK Biocensus ecologists undertook otter and water vole survey visits on 20th and 21st June 2023 and 10th August 2023. Subject to access, all watercourses surveyed within the Site Boundary were surveyed including a buffer of up to 200 m outside of the boundary where access allowed (and subject to connectivity as outlined in the results section below). Ditches were surveyed 100 m upstream and downstream if it extended for these distances, otherwise the full extent of the ditch was surveyed. This is in line with the water vole mitigation handbook (Dean *et al.* 2016).
- 2.1.2 The aim of the surveys was to determine the presence or likely absence of water vole and otter on or within 200 m of the Site (**Figure 2**). The lead surveyor, Amy Copping is a senior ecologist for RSK Biocensus with five years' experience undertaking surveys of this type. Amy was assisted by Charlotte Wood. Both surveyors are members of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- 2.1.3 The weather conditions during the surveys are described in **Table 1**. The prevailing water levels at the time of the surveys were average, with no recent flood events.

Table 1. Weather conditions during the surveys

Date	Air temperature - °C	Cloud cover – oktas	Wind speed - Beaufort scale	Precipitation
20/06/2023	20	1	0-1	Drizzle
21/06/2023	21	1	0-1	Dry
10/08/2023	24	2	0-1	Dry

2.2 Otter survey

- 2.2.1 Otters require clean rivers with an abundant, varied supply of food and plenty of bank-side vegetation and overhanging tree roots offering secluded sites for their holts (Chanin, 2003). Suitable habitats include reed beds and interconnected ditches and streams. Signs of otter activity, including holts, foraging signs, paths (runs), footprints and spraints, were recorded if they were encountered. Otters are strictly protected and a material consideration in planning.

Habitat assessment

2.2.2 Habitats were assessed on their potential for otters according to subjective criteria, which were then used to categorise habitat according to its suitability for otters. The following habitat factors are taken into consideration:

- Water quality;
- Water-level regime;
- Channel dimensions;
- Bank type and material;
- Vegetation for cover and food sources;
- Shading;
- Predation and competition; and,
- Habitat management.

Presence / likely absence

2.2.3 Habitats with potential for otters were surveyed within the Site Boundary, and up to 200 m from the main Site Boundary. Survey methods followed Chanin (1993). The suitable bank-side and water-edge habitats were thoroughly searched for field signs of the species including;

- Spraint (droppings);
- Footprints;
- Slides;
- Paths;
- Feeding evidence;
- Holts (underground resting places); and,
- Couches (temporary resting places).

2.2.4 Where evidence of otter was found it was recorded and shown on the map of the Site (**Figures 3 and 4**).

2.3 Water Vole survey

2.3.1 The watercourses were assessed for their suitability for water voles. Suitable habitats include vegetated earth banks around ponds, reed beds, flowing water and wet ditches. Signs of water vole activity, including burrows, feeding platforms, food remains and latrines, were recorded if they were encountered. The water vole survey was based on standard methods described in Strachan (1998) and Dean *et al.* (2016). Water voles are protected from capture, killing or injury, and it is unlawful to damage, destroy or block access to their places of shelter or protection.

Habitat assessment

- 2.3.2 The suitability of the habitat for water vole was assessed using the following criteria (Dean *et al.*, 2016):
- bank profile;
 - bank substrate, specifically its suitability for burrowing;
 - water depth;
 - likely frequency and height of water level changes, relative to bank height;
 - amount of shading from trees/shrubs;
 - bankside herbaceous vegetation type (tall tussocky grass, mown grass etc.);
 - bankside herbaceous vegetation density;
 - in-channel herbaceous vegetation type;
 - in-channel herbaceous vegetation width (from toe of bank – the point at which the bank meets water level);
 - in-channel herbaceous vegetation density;
 - percentage of the channel with in-channel herbaceous vegetation;
 - evidence of current or recent management, and the likely effects of management; and,
 - any other relevant factors.
- 2.3.3 Where suitable habitat was present, the watercourse was search for evidence of water vole activity.

Presence / likely absence survey

- 2.3.4 In habitats with the potential for water vole, surveys for evidence of water vole activity were carried out following standard methods from Dean *et al.* (2016). All of the suitable bank-side and water-edge habitats (where accessible) were thoroughly searched for field signs including:
- Burrows;
 - Feeding platforms and evidence of feeding;
 - Food remains;
 - Latrines; and,
 - Footprints.
- 2.3.5 The apparent size and distribution of water vole populations can be affected by changes in habitat suitability during the breeding season. Therefore, two surveys for field signs of water vole are routinely required (Dean *et al.*, 2016). The impacts of a development on water vole can be assessed more robustly using data collected during two surveys. In particular, this applies where different parts of Site are used during different periods of the breeding season. Therefore, two

surveys (one in June and one in August) of all watercourses identified as suitable for water vole were undertaken as recommended by standard methods.

2.4 Survey limitations

- 2.4.1 The dense vegetation and steep sided banks of several watercourses (over 2 m and greater than 45 degrees in places) made it difficult to survey the entirety of every water course. As such, it remains possible that evidence or field signs may have been missed during the surveys.

3. Results

3.1. Habitat assessment

- 3.1.1 The results of the habitat assessment are set out in **Table 2** below.
- 3.1.2 As shown in **Figure 2**, a 200 m buffer was applied to the Site Boundary. However, as none of the water courses off Site and within this 200 m buffer will be directly impacted by the proposed works, only water courses with suitable connectivity to the Site were surveyed.
- 3.1.3 Watercourses 16, 22, 23, 24, 25, 30, 31, 32 and 38 and were not surveyed due to a lack of potential connectivity to suitable waterbodies within the survey boundary.
- 3.1.4 The majority of the watercourses on the Site were considered unsuitable or suitable but poor for supporting otter and water vole due to their lack of connectivity to suitable habitat in the surrounding landscape in addition to a lack of suitable food sources. Watercourses 41 and 43- 53 were considered suboptimal for both otter and water vole because although they have limited food sources, they are ecologically connected to suitable habitat in the surrounding landscape meaning that otters and water vole could commute along these watercourses to reach suitable habitat and food sources within the wider area.

Table 2. Water vole and otter habitat assessment results

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
Waterbody 5	Large pond with iris (<i>Iris</i> sp.) and some aquatic plants in some places but mostly shaded and exposed banks.		Unsuitable	Unsuitable	No	No
Waterbody 67	Woodland pond, mostly shaded but northern corner open with some submerged plants.	Surrounded by broadleaved trees incl. willow (<i>Salix</i> sp.), poplar (<i>Populus</i> sp.), oak (<i>Quercus</i> sp.)	Unsuitable	Unsuitable	No	No
Watercourse 1 and 3	Wet but heavily shaded ditch under hedgerow with no aquatic food sources recorded.	Limited connectivity and isolated from suitable watercourses.	Unsuitable	Unsuitable	No	No
Watercourse 2	Field drainage ditch containing shallow banks less than 0.5 m high comprising soft earth substrate suitable for burrowing. The 2m wide channel was dry in both June and August however, aquatic plants were present indicating that this	Surrounded by meadow but with limited connectivity and isolated from	Unsuitable	Poor suitability	No	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
	ditch is wet for at least some of the year. Tall herbs and grassland dominate both banks. A variety of aquatic and marginal vegetation is present covering up to 80 % of the channel, including Bulrush (<i>Typha latifolia</i>), Soft-rush (<i>Juncus effusus</i>), and iris. (<i>Iris sp.</i>).	suitable watercourses.				
Watercourse 5	Dry ditch with shrubs, tall ruderals and tall grasses.	Limited connectivity and isolated from suitable watercourses.	Unsuitable	Unsuitable	No	No
Watercourse 8	Dry field ditch containing shallow banks less than 0.5 m high comprising soft earth substrate suitable for burrowing. The 1m wide channel was dry in both June and August however, aquatic plants including rushes, Field Horsetail (<i>Equisetum arvense</i>) and iris were present indicating that this ditch is wet for at least some of the year. Reeds, sedges and tall grasses	Surrounded by meadow but limited connectivity and isolated from suitable watercourses.	Unsuitable	Poor suitability	No	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
	dominate the banks and the ditch and provides a moderate food source for water vole.					
Watercourse 9 and 10	Ditch at the base of a hedge. No food source for otter or water vole was recorded and the ditch was dry at the time of the survey.	Limited connectivity and isolated from suitable watercourses.	Unsuitable	Unsuitable	No	No
Watercourse 11	<p>Ditch distinctly differing along course. Towards the northern section the ditch follows an outgrown hedgerow however, surveyors unable to access as surrounded by barbed wire.</p> <p>Towards the southern end, the ditch becomes a field ditch dominated by Soft-rush and tall grasses with some shrubs. Although suitable for water vole with suitable food source the ditch was dry at the time of survey with no evidence recent water and a lack of connectivity to suitable</p>	Meadow and grassland habitat. Some shrubs. Adjacent to area of newly planted trees and meadow habitat however limited connectivity and isolated from suitable watercourses.	Unsuitable	Suitable but lacks connectivity	No	No

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
	habitat in the surrounding landscape.					
Watercourse 15	Dry ditch, banks with continuous Bramble (<i>Rubus fruticosus</i>) scrub, tall ruderals and grasses and occasional trees.	Limited connectivity and isolated from suitable watercourses.	Unsuitable	Unsuitable	No	No
Watercourse 16	Not surveyed as this ditch will not be directly impacted and it is isolated with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses.	N/A	N/A	N/A	N/A
Watercourse 17-20	Dry ditch along hedge, detonated by tall ruderals.	Limited connectivity and isolated from suitable watercourses.	Unsuitable	Unsuitable	No	No
Watercourse 21	Field drainage ditch with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses	Unsuitable	Unsuitable	No	No

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
Watercourse 22	Not surveyed as this ditch will not be directly impacted and it is isolated with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses.	N/A	N/A	N/A	N/A
Watercourse 23-25	Hedge feature ditch which was dry at the time of survey with no food source for otter and water vole recorded.	Arable with no connectivity to suitable water courses in the surrounding landscape.	Unsuitable	Unsuitable	No	No
Watercourse 26	Not surveyed as this ditch will not be directly impacted and it is isolated with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses.	N/A	N/A	N/A	N/A
Watercourse 28 and 29	Woodland shaded ditch that was dry at the time of survey.	No connectivity to suitable water courses in the surrounding landscape.	Unsuitable	Unsuitable	No	No

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
Watercourse 30 - 32	Not surveyed as this ditch will not be directly impacted and it is isolated with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses.	N/A	N/A	N/A	N/A
Watercourse 33	Field hedge with dry ditch.	Cattle grazing and crop in surrounding field. No connectivity to suitable water courses in the surrounding landscape.	Unsuitable	Unsuitable	No	No
Watercourse 34 and 35	Woodland narrow ditch with heavy shading and no aquatic plant (only surveyed 30m from boundary).	No connectivity to suitable water courses in the surrounding landscape.	Unsuitable	Unsuitable	No	No
Watercourse 36 and 37	Dry ditch at the base of a hedgerow. Heavily shaded with no aquatic plants.	Arable with no connectivity to suitable water courses in the	Unsuitable	Unsuitable	No	No

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
		surrounding landscape.				
Watercourse 38	Not surveyed as this ditch will not be directly impacted and it is isolated with no connectivity to suitable habitat in the surrounding landscape.	Isolated from suitable watercourses.	N/A	N/A	N/A	N/A
Watercourse 39	Dry field drainage ditch dominated by grasses and willow herb, rare shrubs and trees with little shade.	Arable with no connectivity to suitable water courses in the surrounding landscape.	Unsuitable	Unsuitable	No	No
Watercourse 40	Not surveyed as this ditch will not be directly impacted and due to the distance from the Site >30m	N/A	N/A	N/A	N/A	N/A
Watercourse 41, 43, 44 and 48	Natural boundary stream within outgrown hedge. Shallow water, some sections of bare banks and others with tall grass and herbs. Parts of watercourse with submerged vegetation. The stream contained steep banks up to 1.5 m	Agricultural crop and grassland. Livestock to the North. Potential connectivity via adjoining water	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Yes – See table 3	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
	high with soft earth substrate suitable for burrowing. The channel contained water in both June and August to a maximum depth of 1 m recorded in places. A variety of aquatic and marginal vegetation was recording including bulrush and soft rush. Additionally, crayfish holes burrows(likely to be the non native signal crayfish) were recorded along this watercourse, providing a potential food source for otter (Figure 4).	courses and arable fields.	limited food sources.	limited food sources.		
Watercourse 42	Field drainage ditch. Vegetated in over 50% of its length with abundant bankside trees, bushes and herbs.	Connected to suitable habitat via a culvert between ditch and suitable stream.	Unsuitable, dry with little food source.	Unsuitable, dry with little food source.	No	No
Watercourse 45	Field drainage ditch surrounded by an arable grassland field.	Joins large watercourse and terrestrial habitat suitable for otter and water vole	Suitable but dry at the time of survey	Suitable but dry at the time of survey	Yes – no evidence found.	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
		dispersal to the wider landscape				
Watercourse 46	Field drainage ditch surrounded by an arable grassland field.	Joins large watercourse and terrestrial habitat suitable for otter and water vole dispersal to the wider landscape	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Yes – no evidence found.	Yes – no evidence found.
Watercourse 47	Field drainage ditch surrounded by an arable grassland field at the base of a hedgerow.	Joins large watercourse and terrestrial habitat, suitable for otter and water vole dispersal to the wider landscape	Suitable but dry at the time of survey	Suitable but dry at the time of survey	Yes – no evidence found.	Yes – no evidence found.
Watercourse 49	Field drainage ditch surrounded by an arable grassland field at the base of a hedgerow.	Joins large watercourse and terrestrial habitat suitable, for otter and water vole	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Yes – no evidence found.	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
		dispersal to the wider landscape	limited food sources	limited food sources		
Watercourse 50 and 51	Field drainage ditch surrounded by an arable grassland field at the base of a hedgerow.	Joins large watercourse and terrestrial habitat, suitable for otter and water vole dispersal to the wider landscape	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Yes – no evidence found.	Yes – no evidence found.
Watercourse 52	Field drainage ditch surrounded by an arable grassland field at the base of a hedgerow.	Joins large watercourse and terrestrial habitat, suitable for otter and water vole dispersal to the wider landscape.	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Sub-optimal, connected to suitable habitat in the surrounding landscape but limited food sources	Yes – no evidence found.	Yes – no evidence found.
Watercourse 53	Field drainage ditch surrounded by an arable grassland field at the base of a hedgerow.	Joins large watercourse and terrestrial habitat, suitable for otter and water vole	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Sub-optimal, connected to suitable habitat in the surrounding landscape but	Yes – no evidence found.	Yes – no evidence found.

Water course	Habitat assessment	Surrounding habitat and connectivity	Habitat classification for otter	Habitat classification for water vole	Otter survey undertaken	Water vole survey undertaken
		dispersal to the wider landscape	limited food sources	limited food sources		

3.2. Presence / absence surveys - Otter

3.2.1 The majority of the watercourses on the Site provided unsuitable habitat for otters. Watercourses 41 and 43-53 provided suboptimal habitat and were therefore subject to presence/absence surveys. The results of the presence/absence surveys are detailed in **Table 3** below.

Table 3: Otter presence/absence survey results

Location	20 & 21 st June 2023	10 August 2023
Watercourse 41, 43, 44 and 48	Negative. No evidence of otter activity was recorded.	Confirmed presence. A single spraint, a potential holt, a single couch location and multiple footprints were recorded (Plates 1-5; figure 4).
Watercourse 45	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 46	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 47	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 49	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 50 and 51	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 52	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.
Watercourse 53	Negative. No evidence of otter activity was recorded.	Negative. No evidence of otter activity was recorded.

3.3. Presence / absence surveys - Water Vole

3.3.1 The majority of the watercourses on the Site provided unsuitable habitat for water vole. Watercourses 2, 3, 21, 21, 23, 24, 25, 26, 27 and 28 provided sub-optimal habitat and were therefore subject to presence/absence surveys. The results of the presence/absence surveys are detailed in **Table 4**.

Table 4. Water vole presence/absence survey results

Location	20 & 21 st June 2023	10 th August 2023
Watercourse 2	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 8	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 21	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 53	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 52	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 50 and 51	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 49	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 44 and 47	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 45	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.
Watercourse 46	Negative. No evidence of water vole was recorded.	Negative. No evidence of water vole was recorded.

3.4. Incidental Findings

- 3.4.1 Signal crayfish burrows were recorded along watercourses 41, 43, 44 and 48.

4. Recommendations and conclusion

4.1. Otter

- 4.1.1 The majority of watercourses on Site do not provide suitable habitat for otter and are isolated from suitable habitat within the surrounding landscape.
- 4.1.2 Watercourses 40, 42, 45-47, 49-53 are ecologically connected to water courses 41, 43, 44 and 48 however, no evidence of otter was recorded along these watercourses. These watercourses offer limited foraging habitat for otter however, they join a large watercourse which provides suitable food sources with evidence of crayfish recorded during the surveys (watercourses 41, 43, 44 and 48) and the terrestrial habitat is suitable for otter to disperse across land. Therefore, although no evidence of otter was recorded along these watercourses, they remain suitable habitat and their presence cannot be rule out entirely.
- 4.1.3 One otter couch, one spraint and one potential holt was recorded within the study area along watercourses 41, 43, 44 and 48. Given the embedded standoff distance to watercourses in the scheme design, direct impacts arising from the solar scheme with regards to otters are considered unlikely but precautionary measures to ensure compliance with the legislation regards otters are outlined below.
- 4.1.4 Otters are classed as EPS under the Conservation (Natural Habitats, etc.) Regulations 1994 (as amended). It is therefore an offence to deliberately or recklessly kill, injure, capture an otter or disturb an otter whilst it is occupying a holt or other place it uses for shelter or protection. It is also an offence in any way to impair its ability to survive or breed, or significantly affect the local distribution or abundance of otters (see Appendix B for species legislation).
- 4.1.5 Resting places (holts and couches) are protected whether they are in use or not. It is therefore recommended that monitoring, through the use of camera traps, is conducted on the potential holt, to determine its use by the species. This method can also help to determine whether the holt is used for breeding, which can occur year-round for otter in England.
- 4.1.6 It is recommended that any feature identified as a holt or couch (potential or confirmed) in the first instance, is avoided by the proposed development works.
- 4.1.7 It is recommended that a 30 m disturbance buffer is applied to each couch, or potential couch, feature. Where a holt or potential holt has been recorded, a worst case 200 m disturbance buffer should be applied. This is required for any feature used for breeding by otter. Where the proposed development works cannot avoid this 200 m buffer, further survey work is recommended to determine whether the feature is used by breeding otter. Where breeding has not been identified, this buffer can be reduced to 30 m. Where otters are known or are suspected to be breeding, the 200 m disturbance buffer should remain, or can be reduced to 100m depending on the nature of the works, topography and presence of any natural screening. Advice on reduction of the disturbance buffer

should be obtained from an ECoW or a suitably qualified ecologist and may also require consultation with Natural England.

- 4.1.8 It is important to note that any works conducted within the aforementioned disturbance buffers requires an EPS licence from Natural England.
- 4.1.9 It is also recommended that pre-construction checks are undertaken six-weeks prior to work commencing on watercourses 41, 43, 44 and 48 and all watercourses which are suitable and ecological connected (namely; watercourses 40, 42, 45-47, 49-53). This would allow for any recorded features to be re-checked and the presence of any new features to be identified.
- 4.1.10 Additionally, no night working should be undertaken to avoid disturbing commuting otter, and any site lighting should be switched off or cowed away from areas likely to be used by otter.
- 4.1.11 No evidence of otter was recorded in any other watercourses during the survey. Therefore, it can be assumed that otter are currently absent from these watercourses and no further recommendations are made for these watercourses.

4.2 Water vole

- 4.2.1 No evidence of water vole was recorded during the surveys which were undertaken an optimal time of year for recording water vole signs. Therefore, it can be assumed that water vole are currently absent from the Site and no further recommendations are made.

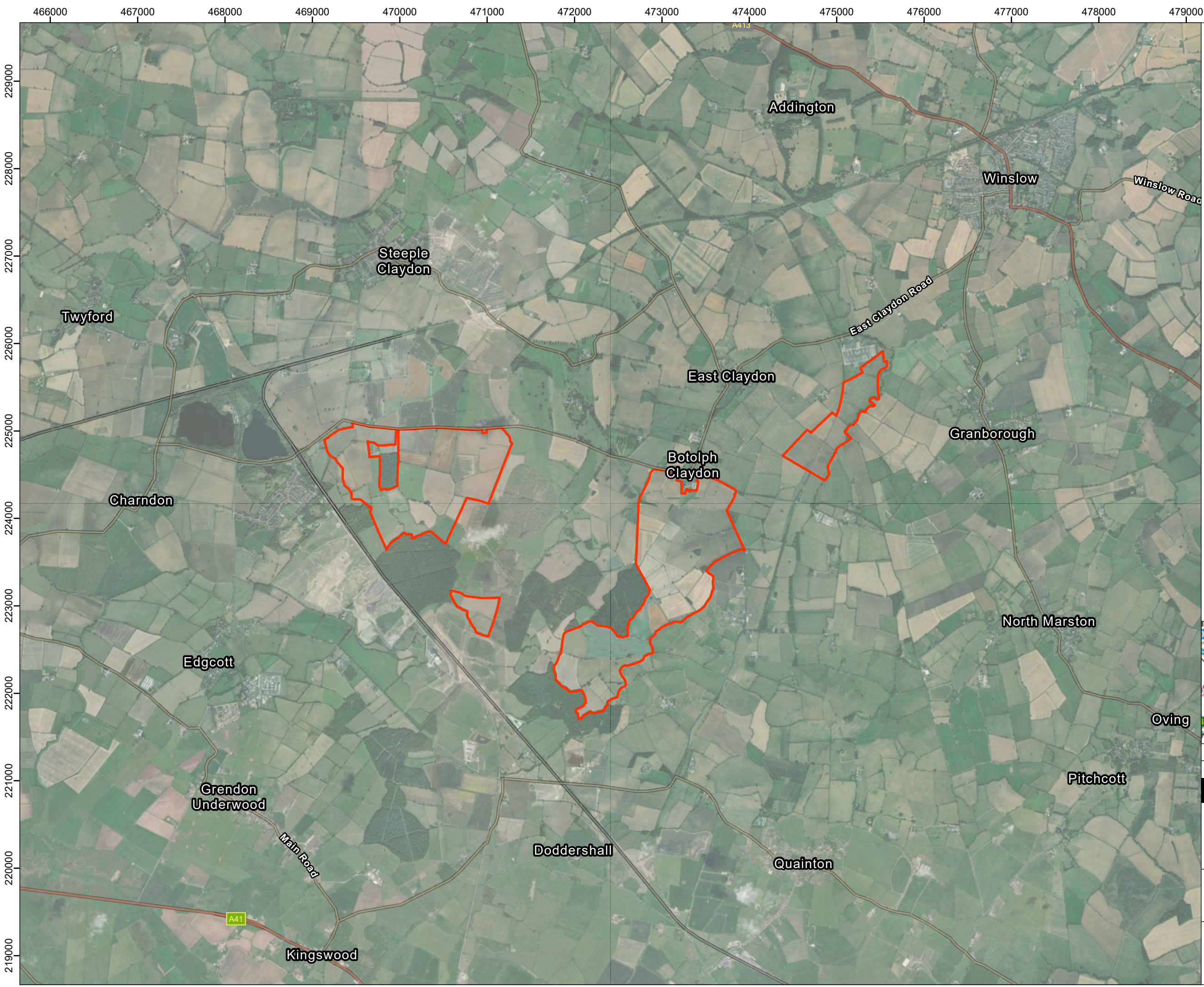
5. Figures

Figure 1. Site Location Plan

Figure 2. Waterbodies and Watercourses within 250m

Figure 3. Watercourse suitability for water vole and otter

Figure 4. Otter field signs



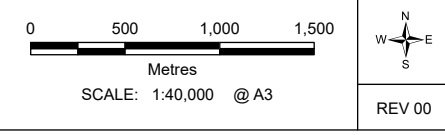
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 Site Boundary

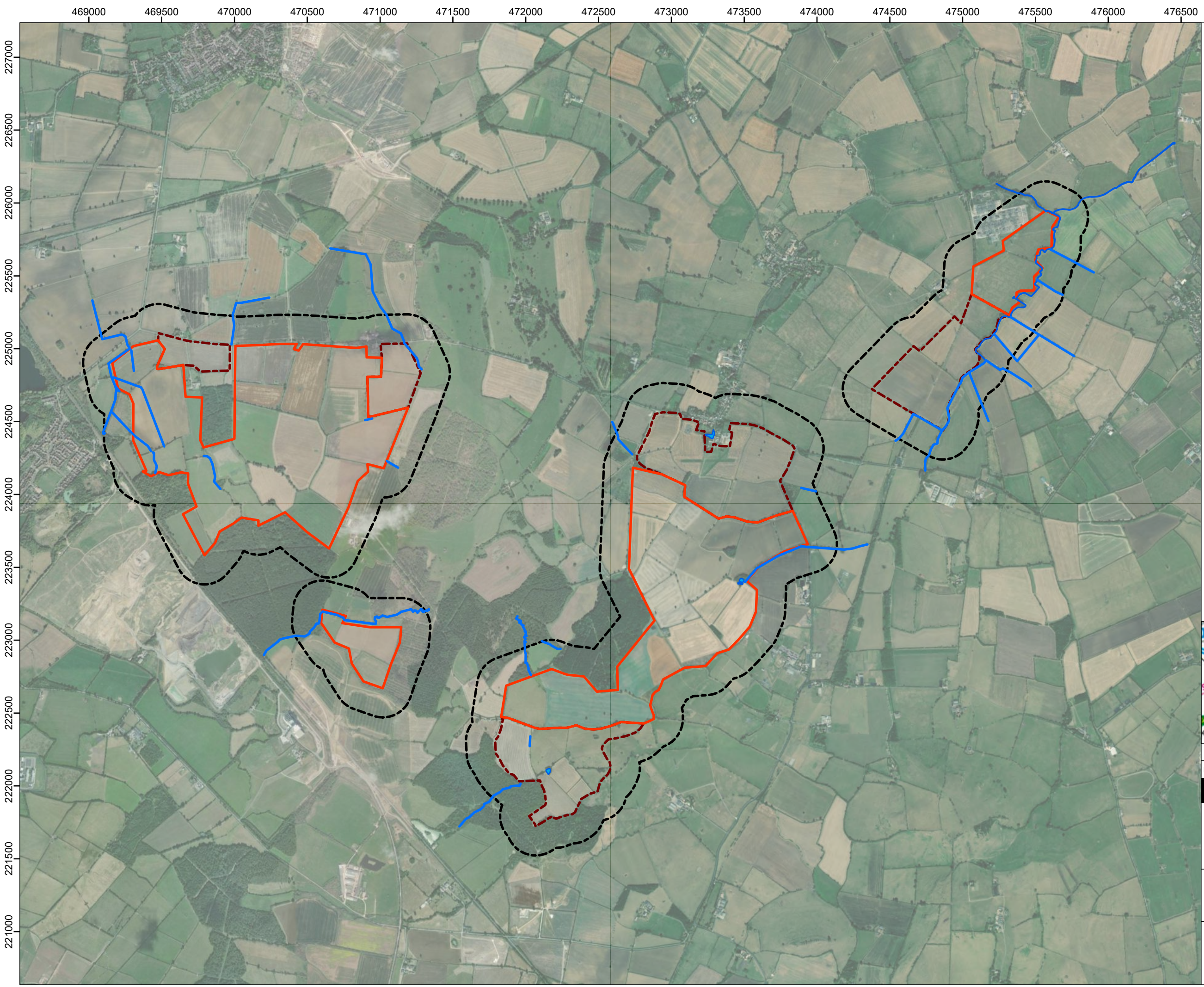


Rev	Date	Description	Drm	Chk	App
00	22/09/2023	2485353	EC	RJ	PT

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TITLE: Figure 1:
 Site Location Plan





- Legend:**
- Site Boundary
 - Potential Site Extension
 - 200m Buffer
 - Waterbodies
 - Watercourses



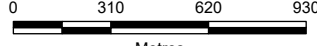
Rev	Date	Description	Drm	Chk	App
00	19/06/2023	2485353	EC	RJ	PT

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TITLE: Figure 2:
Waterbodies and Watercourses Within
200m of the Site Boundary

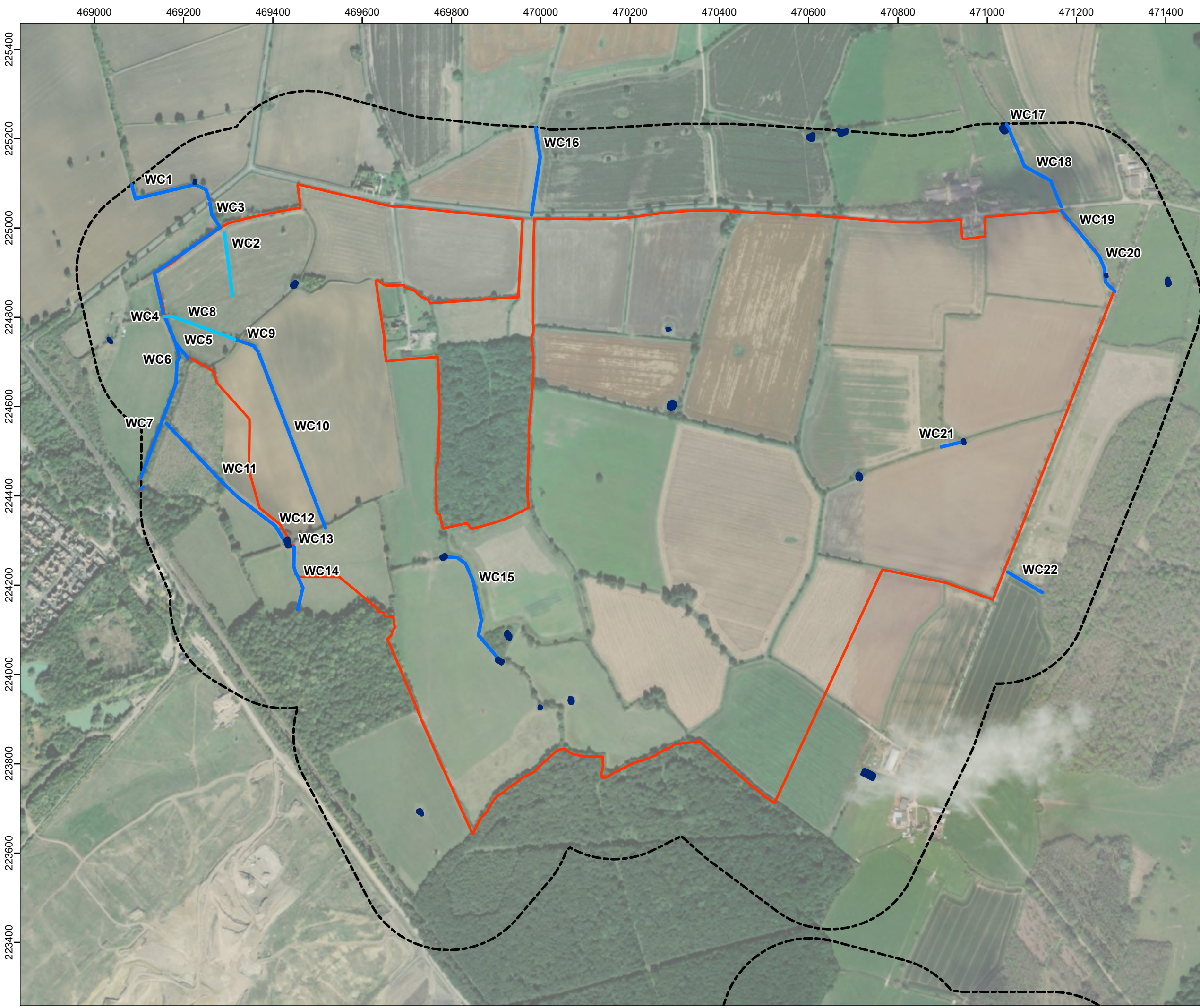


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- Legend:**
- Site Boundary
 - 200m Buffer
 - Suitable Watercourses
 - Unsuitable Watercourses
 - Unsuitable Waterbodies



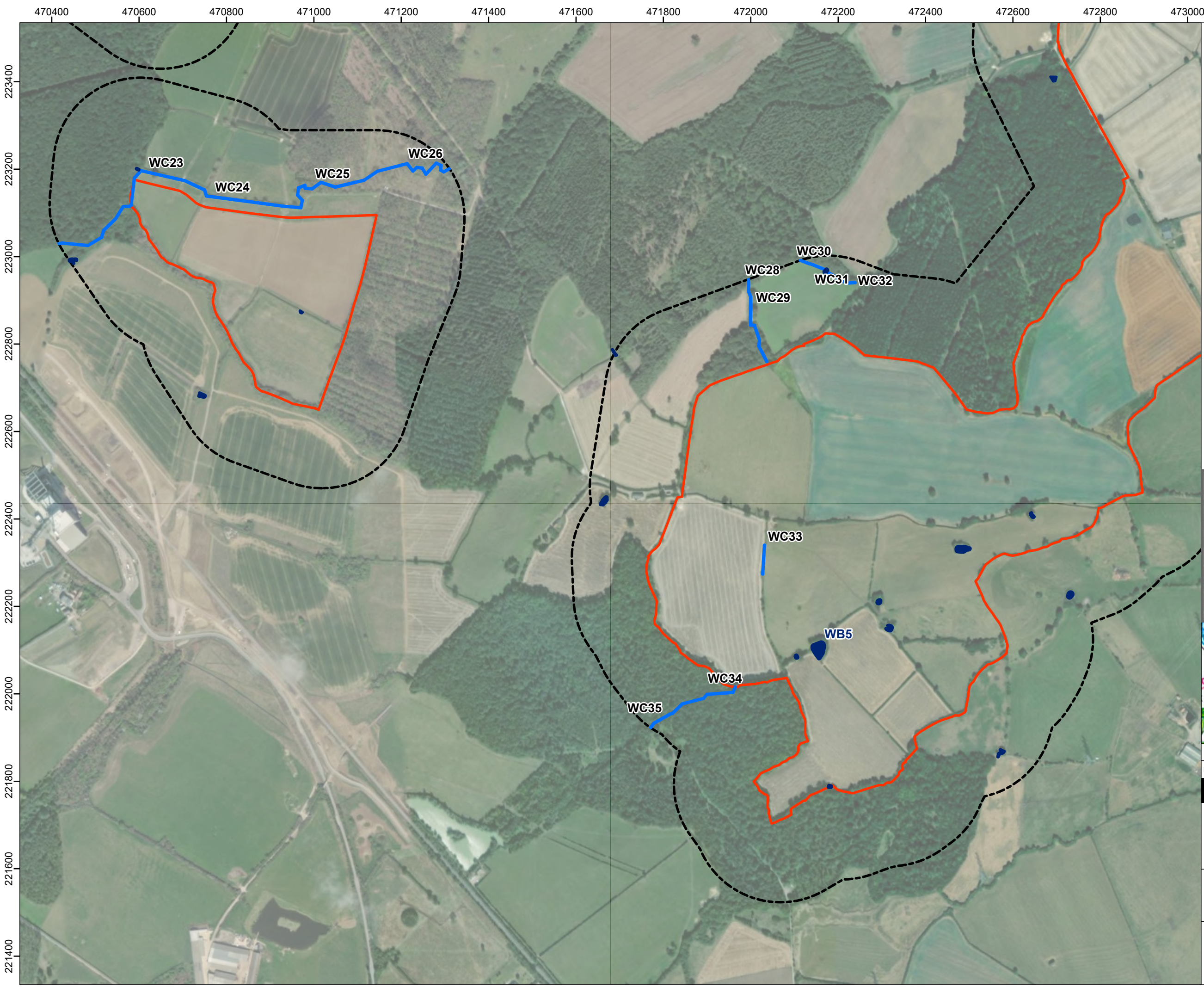
Rev	Date	Description	Drn	Chk	App
00	23/10/2023	2485353	EC	RJ	CW

Rosefield Solar Farm

TITLE: Figure 3:
Watercourses Suitability Survey
for Otter and Water Vole
Page 1 of 4

SCALE: 1:8,000 @ A3

REV 00



- Legend:**
- Site Boundary
 - 200m Buffer
 - Unsuitable Watercourses
 - Unsuitable Waterbodies



Rev	Date	Description	Drn	Chk	App
00	23/10/2023	2485353	EC	RJ	CW

Rosefield Solar Farm

TITLE: Figure 3:
Watercourses Suitability Survey
for Otter and Water Vole
Page 2 of 4

SCALE: 1:8,000 @ A3



- Legend:**
- Site Boundary
 - 200m Buffer
 - Unsuitable Watercourses
 - Unsuitable Waterbodies




Rev	Date	Description	Drn	Chk	App
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Rosefield Solar Farm




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EXPERTS IN ECOLOGY

TITLE: Figure 3:
Watercourses Suitability Survey
for Otter and Water Vole
Page 3 of 4

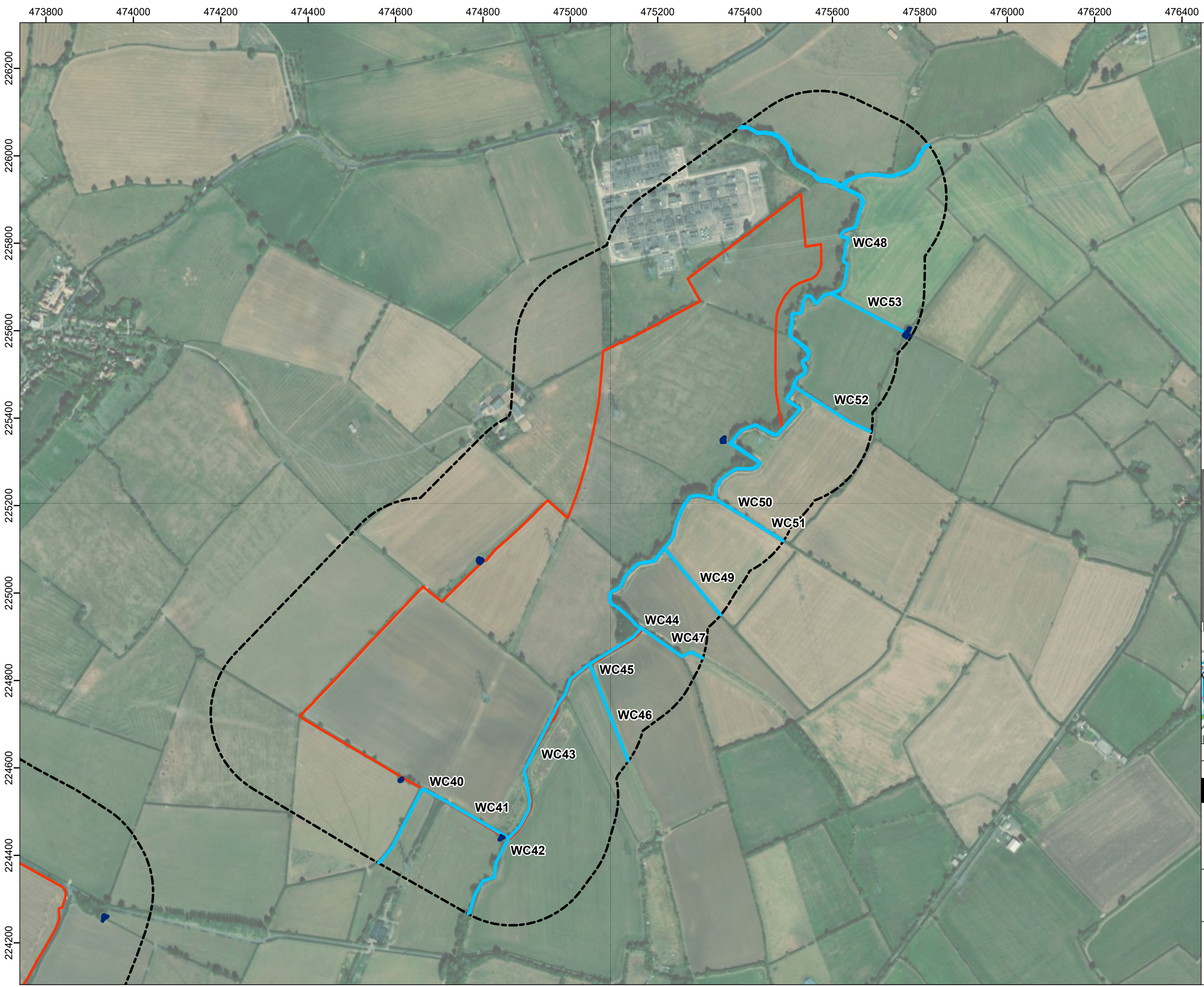


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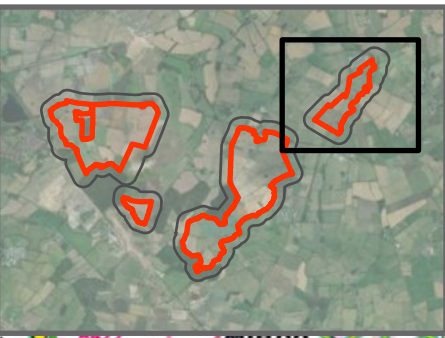


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- Legend:**
- Site Boundary
 - 200m Buffer
 - Suitable Watercourses
 - Unsuitable Waterbodies



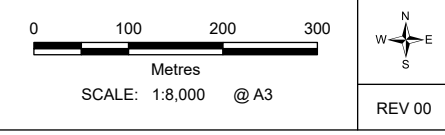
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Rosefield Solar Farm



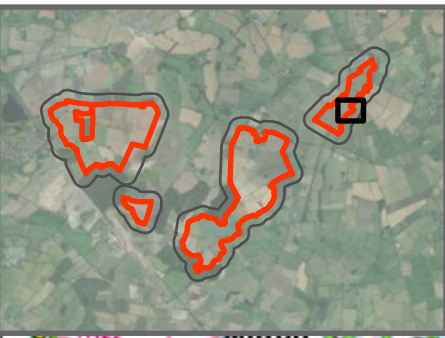
RSK
biocensus
EXPERTS IN ECOLOGY

TITLE: Figure 3:
Watercourses Suitability Survey
for Otter and Water Vole
Page 4 of 4





- Legend:**
- Site Boundary
 - 200m Buffer
 - Suitable Watercourses
 - Otter Sign**
 - ◆ Couch
 - ◆ Footprint
 - ◆ Holt
 - ◆ Spraint
 - ◆ Crayfish Holes



Rev	Date	Description	Drn	Chk	App
00	23/10/2023	2485353	EC	RJ	CW

Rosefield Solar Farm

TITLE: Figure 4:
Otter Field Signs

Metres
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Photo Plate



Plate 1. Otter footprint found along water courses 41, 43, 44 and 48 on 10th August 2023.



Plate 2. Otter spraint found along water courses 41, 43, 44 and 48 on 10th August 2023.



Plate 3. Otter spraint found along water courses 41, 43, 44 and 48 on 10th August 2023.



Plate 4. Potential Otter holt found along water courses 41, 43, 44 and 48 on 10th August 2023.



Plate 5. Potential Otter holt found along water courses 41, 43, 44 and 48 on 10th August 2023.



Plate 6. Evidence of crayfish on water courses 41, 43, 44 and 48.

Appendix 1



Protected Species Legislation

Otter

Otter is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended) and receives full protection under *Section 9*. This species is also listed as a European Protected Species on *Schedule 2* of the *Conservation (Natural Habitats, etc.) Regulations 1994* which gives it full protection under *Regulation 39*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRoW Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Otter is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRoW Act.

The Otter is also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

The European sub-species is also listed as globally threatened on the International Union for Conservation of Nature (IUCN)/ World Conservation Monitoring Centre Red Data List (WCMC RDL).

Water Vole

Water Vole is fully protected under *Section 9* of *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended). Protection was extended by the *Countryside and Rights of Way Act 2000*.

Under this legislation, it is an offence to:

- intentionally kill, injure or take (capture) a Water Vole;
- possess or control a live or dead Water Vole, or any part of a Water Vole;

- intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection, or to intentionally or recklessly disturb Water Voles while they are using such a place; or
- sell, offer for sale or advertise for live or dead Water Voles.

Water Vole is included as a Priority Species in the UKBAP.



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Appendix F-7

Preliminary Aquatic Surveys June 2023

Rosefield Solar Farm

Preliminary Aquatic Survey Report



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1. Introduction

1.1. Project Outline

- 1.1.1. RSK Biocensus (hereafter, RSK) was commissioned by EDF Renewables to undertake an aquatic habitat walkover across four areas, as part of the Preliminary Ecological Appraisal (PEA) of land associated with the proposed Rosefield Solar Farm Development.
- 1.1.2. A total of three watercourses were assessed along with 36 ponds, 28 of which were within the proposed Site Boundary with the remaining eight ponds located within 25 m of the Site Boundary.

1.2. Purpose of this Report

- 1.2.1. This report presents the results of the preliminary aquatic survey undertaken by two aquatic ecologists on 27th - 29th of June 2023. The assessment of marginal and submerged features was undertaken to assess the quality and extent of viable habitat for notable aquatic species, freshwater fishes, and macroinvertebrates.
- 1.2.2. Surveyors also recorded features which may provide opportunities for other species, such as the protected, white-clawed crayfish (*Austropotamobius pallipes*), otter (*Lutra lutra*) and water vole (*Arvicola amphibius*). Any signs of other protected or invasive species were also noted.
- 1.2.3. This report details the habitat features and observations recorded by surveyors during the preliminary aquatic survey walkover. The results of the survey will be used to inform any additional survey requirements and/or possible mitigation measures which may be required as part of the scheme.

1.3. Project Overview

- 1.3.1. Rosefield Solar Farm is a proposed solar farm with energy storage which will generate and store renewable electricity for export to the National Grid.
- 1.3.2. The main features of the Proposed Development, which consist of the following elements:
 - Ground mounted solar PV generating station which comprises; solar PV modules and mounting structures.
 - Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear.
 - Collector Compounds comprising; switchgear, transformers, ancillary equipment, and an operation, maintenance and welfare facilities, and security cabins.
 - Rosefield Substation compound, which will include; substation including transformers, switching and control equipment, office / control / welfare

buildings, storage areas, and provisions for vehicular parking and material laydown.

- Battery Energy Storage System (BESS) compound(s) which will include; office / control / welfare buildings and associated inverters, transformers, switchgear and ancillary equipment and their containers, enclosures, monitoring systems, air conditioning, electrical cables, and fire safety infrastructure.
- Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting, landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development.
- Landscaping, habitat management, biodiversity enhancement and amenity improvements.
- Highway works to facilitate vehicular access to the Site.

2. Methods

2.1. Survey Extent

2.1.1. There are four land parcels to the proposed solar farm as follows; Site 1 to the west, Site 1a to the south-west, Site 2 to the south-east and Site 3 to the north-east (**Figure 1**). An additional 25 m protection buffer was applied to Site 1, 1a, 2 and 3 which is not included within the area (ha).

Table 1 - Summary of Sites 1-3

Site ID	Area (ha)	NGR
Site 1	172.7	SP 70347 24207
Site 1a	14.5	SP 70926 22941
Site 2	134.9	SP 73098 23223
Site 3	20.3	SP 75422 25722

2.1.2. The aquatic walkover survey included walking the banks of all water features within the Site and its buffer. It encompassed 36 ponds and three unnamed watercourses.

2.2. Preliminary Aquatic Survey

2.2.1. The survey methodology was adapted from that described in Hendry & Cragg-Hine (1996)¹, by which it incorporated habitat types for all groups of fish including salmonids, European eel (*Anguilla anguilla*), lampreys, and small species such as bullhead (*Cottus gobio*) and 3-spined stickleback (*Gasterosteus aculeatus*).

2.2.2. Surveyors used an online ARCGIS map to record notes for each waterbody while in the field. Recorded habitat features included:

- flow type (e.g., glide, run, riffle, cascade, pool and rapid);
- substrate type (e.g., boulder, cobble, pebble, gravel, sand, silt or artificial, as defined in the Wentworth scale);
- macrophyte presence / type (e.g., emergent linear, emergent broad-leaf, submerged linear, submerged broad-leaf, floating linear, floating broadleaf, or choked channel);
- other key features (e.g., side bar, mid-stream bar, man-made dams, weirs, large woody debris, coarse woody debris, spawning area, fry / juvenile fish refuge area); and
- evidence of protected or invasive species (e.g., field signs or incidental observations).

¹ Hendry K. & Cragg-Hine D. (1996). Fisheries Technical Manual 4, R&D: Technical Report W44, Environment Agency Publication.

2.2.3. Digital photographs were taken during the surveys to provide a record of any notable habitat features and of the general character of the surveyed waterbodies.

2.3. Constraints and Limitations

2.3.1. Preceding the June 27th survey, dry and hot weather caused below normal water levels in many water features. As a result, this survey may not fully reflect the features typical water level, and the suitability of aquatic habitats for fish and other species could improve when water levels return to normal.

2.3.2. Surveyors also found the watercourse in Site 3 was largely inaccessible due to dense woodland scrub on the right bank and a steep, densely vegetated left bank. Inaccessible banks combined with a narrow channel (c.1 m width) rendered this site unsuitable for survey.

2.3.3. No further constraints were found.

3. Results

3.1. Preliminary Aquatic Survey - Site 1

- 3.1.1. Site 1 mainly consisted of arable cropland fields bordered by hedgerows. Additionally, there were permanently vegetated pasture with evidence of rotational grazing in fields primarily to the west, along with small areas of woodland and mixed scrub. Ponds found on Site were mostly shallow or dry and only occasionally deep. See **Figure 2** for the location Watercourses and Pond IDs at Site 1.
- 3.1.2. The shallow ponds, including Pond ID 9 and 10 were stagnant and approximately 1 - 10 cm in depth with broad floating, submerged and emergent linear leaved vegetation present. Some ponds were heavily poached and comprised of a silt clay layer, with herb and tall grass / scrub present on the bank tops.



Plate 1 - Pond ID 10

- 3.1.3. The dry ephemeral ponds, including Pond ID 18 were densely overgrown with terrestrial vegetation including horse tail and dense scrub which caused the ponds to be completely shaded. These ponds were also bordered by woodland as well as arable and pasture fields.



Plate 2 - Pond ID 18

- 3.1.4. There was one long watercourse north-west of the Site and a smaller section of ditches present in the middle, and in the east of the Site.
- 3.1.5. Most ditches in Site 1 and in the surrounding area, which connect to this waterbody, were dry and ephemeral, with arable and pasture fields on both banks. Most contained terrestrial vegetation and emergent linear-leaved plants in the channel and was choked with dense herb and tall grass on both banks.
- 3.1.6. The surveyed watercourse ID 11 in the north-west within the extended red line boundary (RLB) is situated behind newly erected 1.5 m high fences
- 3.1.7. Just north of the extended RLB, Watercourse ID 3 was wet, with stagnant water and no perceptible flow. There was a culvert leading to the southern branch, and the channel width was less than 1 m, with a depth of 5 cm and a silt clay substrate. The banks were densely overgrown with scrub and trees, but there was no vegetation within the channel.



Plate 3 - Watercourse ID 3

- 3.1.8. Watercourse ID 15 running through the middle of Site 1 was a dry ephemeral ditch located in between arable and pasture fields, with terrestrial vegetation present within the channel. The ditch was choked with dense herbs, tall grass, and scrubs on both banks. In the southern section of the ditch, there was a small amount of stagnant water, approximately 1cm deep, leading to a pond.



Plate 4 - Watercourse ID 15

3.2. Preliminary Aquatic Survey – Site 1a

- 3.2.1. The majority of Site 1a is made up of arable and pasture fields, bordered by hedgerows. See **Figure 2** for the location of Watercourses and Pond IDs at Site 1a.
- 3.2.2. Site 1a comprised of only one pond, Pond ID 39 which was dry and densely covered with terrestrial vegetation. The pond had an earth substrate and was completely shaded by vegetation and surrounding trees.
- 3.2.3. Site 1a contained only one ephemeral watercourse, Watercourse ID 23- 25 which runs along the northern boundary of the extended RLB. At the time of the survey, the watercourse was dry, densely surrounded by scrub and terrestrial vegetation in the channel, causing it to become choked and overgrown.



Plate 5 - Watercourse ID 24

3.3. Preliminary Aquatic Survey – Site 2

- 3.3.1. The majority of Site 2 is made up of arable land, with pasture fields present in the south of the Site, bordered by hedgerows along with small areas of scrub and woodlands. See **Figure 2** for the location of Watercourses and Pond IDs at Site 2.
- 3.3.2. Along the northern extended RLB lie two large ponds, Pond 4 north of the boundary and Pond 68 to the south. Both are surrounded by agricultural land and a residential farmhouse. The ponds were 20 – 30 cm in depth and consist of gravel, sand, and silt substrate. Both ponds contained an island in the middle, fringed with riparian vegetation which resulted in low to moderate shading. Bankside trees, tall herb and short, maintained grasses surround the pond. Pond 68 also contained free-floating algal. The ponds were possibly ground water fed with low turbidity, with waterfowl also present.



Plate 6 - Pond ID 4



Plate 7 - Pond ID 68

- 3.3.3. Along the east boundary lies another large pond, Pond 6. The pond appeared to have a high level of silt substrate present and a depth greater than 30 cm. Within the pond, floating broadleaved and emergent linear plants were present. The vegetation along the banks included dense tall herbs, grasses, trees, and scrub, resulting in high shading. The pond is surrounded by agricultural land and seems

to form a series of interconnected ponds through culverts leading to a ditch. Additionally, there is a nearby broad-leaved woodland.



Plate 8 - Pond ID 6

- 3.3.4. Pond ID 62 lies in along the east boundary of Site 2. It has shall margins <10 cm but is deeper in the middle with emergent linear-leaved, broad-leaved and rooted broad-leaved present. The pond is surrounded by trees, tall herbs, scrub and grass with low shading on the pond. Pond ID 61 lies in the southern section of Site 2, has a depth of > 15 cm and is choked with emergent linear vegetation. The pond is surrounded by agricultural land and is heavily poached. The pond is surrounded by dense tall herbs, grasses, trees and scrub which inhibits safe access.



Plate 9- Pond ID 61

- 3.3.5. Pond 5 also lies in the southern section of Site 2. It is a large pond with emergent linear, submerged fine-leaved and broad-leaved vegetation present. It is > 20 cm in depth and is bordered by tall herbs, grasses, trees and scrubs which create moderate shading. This pond is connected to two in / outlet ditches and is suitable for invertebrates only.
- 3.3.6. Watercourse ID 36 lies along the eastern boundary of Site 2 which is an ephemeral ditch with stagnant water ponding near the road bridge. This area is surrounded by agricultural land and features dense trees and scrubs, but vegetation was lacking from within the channel itself. The substrate in this watercourse consisted of earth and silt.



Plate 10 - Watercourse ID 36

3.4. Preliminary Aquatic Survey – Site 3

- 3.4.1 The majority of Site 3 is made up of arable land in the south and pasture fields in the north, bordered by hedgerows along with small areas of scrub and woodland. See **Figure 2** for the location of Watercourses and Pond IDs at Site 3.
- 3.4.2 Site 3 only consists of three waterbodies. Note that Pond ID 80 could not be accessed due to barbed wire fencing. Pond ID 76 lies along the southern boundary and was shallow with silt and clay substrate with long linear-leaved and free-floating broad-leaved vegetation was present.
- 3.4.3 Pond ID 8, located along the south-east extended RLB, was a small, possibly ephemeral, stagnant pool heavily poached by horses.



Plate 11 - Pond 8

- 3.4.1. Watercourse ID 48 lies along the northern and north eastern border of Site 3. It consists of a dry ephemeral ditch at the southern end and becomes a stagnant wet ditch with 5 cm depth and a silt / clay substrate at the northern end. The channel was choked with terrestrial and aquatic vegetation, and both banks had poor access due to the dense woodland scrub and steep bank.
- 3.4.2. Opposite the tributary (trib 26500), the channel is 1.5 – 3 m wide, with no perceptible flow, and a substrate of clay, silt, and some gravel / pebble. The area around the bridge was accessible, but elsewhere the channel was heavily vegetated and inaccessible with c. 2 m high, vertical banks. The northernmost upper branch was flowing and comprised of a glide and riffle with gravel substrate and no in-channel vegetation. Both banks are steep and over 3 m high. The north-west branch of the watercourse had steep banks and was wetted but choked with vegetation leading to a lack of perceptible flow. Several ditches branch off this channel and were dry.



Plate 12 - Watercourse ID 48, northern end



Plate 13 - Watercourse ID 48, southern end

4. Habitat Commentary

- 4.1.1. Overall, there were only small sections of flowing watercourses. Notably, the northern section of Watercourse 48 in Site 3, but almost all of the other ditches on Site provided low to negligible opportunities for fish and invertebrates as they were dry and / or choked up with vegetation.
- 4.1.2. There were six large ponds present across the sites, including Site 1 Ponds ID 9 and 10, and Site 2 Ponds ID 4, 6, 5 and 68. There were no suitable ponds for fish or invertebrates in Site 1a or Site 3.
- 4.1.3. The six large ponds on Site and small sections of wetted watercourses are likely to provide suitable all-year round habitat for a variety of aquatic species such as fish and invertebrates. If any impacts are predicted arising from the proposed development further surveys may be required to ensure no protected or notable species will be impacted from the proposed development. However, given that the ponds will be retained in their entirety with a suitable buffer between the development and the ponds together with the implementation of standard pollution control measures during the construction and operational phase no direct impacts are envisaged.

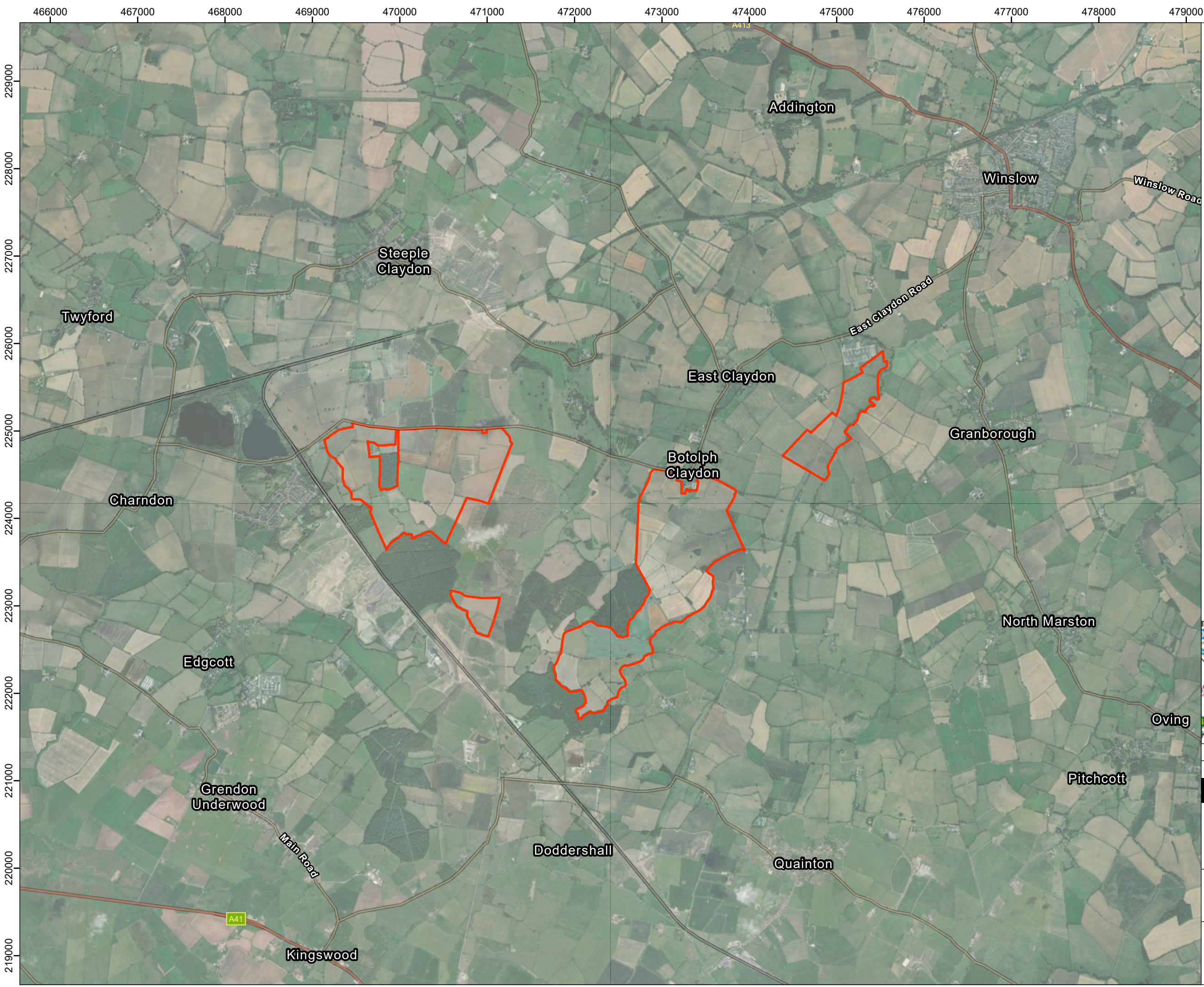
5. Discussion and Recommendations

- 5.1.1. The preliminary aquatic walkover revealed that most ponds and watercourses on the Site are currently of low aquatic ecological value as they were dry and overgrown with aquatic and terrestrial vegetation. Consequently, they are unlikely to offer suitable habitats for any notable or protected aquatic species.
- 5.1.2. The wet watercourses on Site largely contained stagnant water with high levels of silt which may restrict high levels of diversity due to the lack of oxygen, nutrient imbalance, limited shelter and breeding grounds, and restricted movement and dispersal.
- 5.1.3. The aforementioned six large ponds may require further surveys should the development proposals be likely to cause an impact, specifically for fish and aquatic macroinvertebrates as they are more likely to support a large and diverse aquatic ecological community. Given the embedded mitigation in the scheme design this is not considered likely to be required.
- 5.1.4. A Modular River Physical Survey (MoRPH) is also recommended for all the watercourses to feed into the Biodiversity Net Gain (BNG) calculations.

6. Figures

Figure 1 – Site Location

Figure 2 - Location of Watercourses and Ponds



Legend:
 Site Boundary

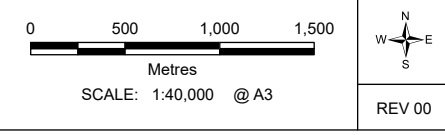


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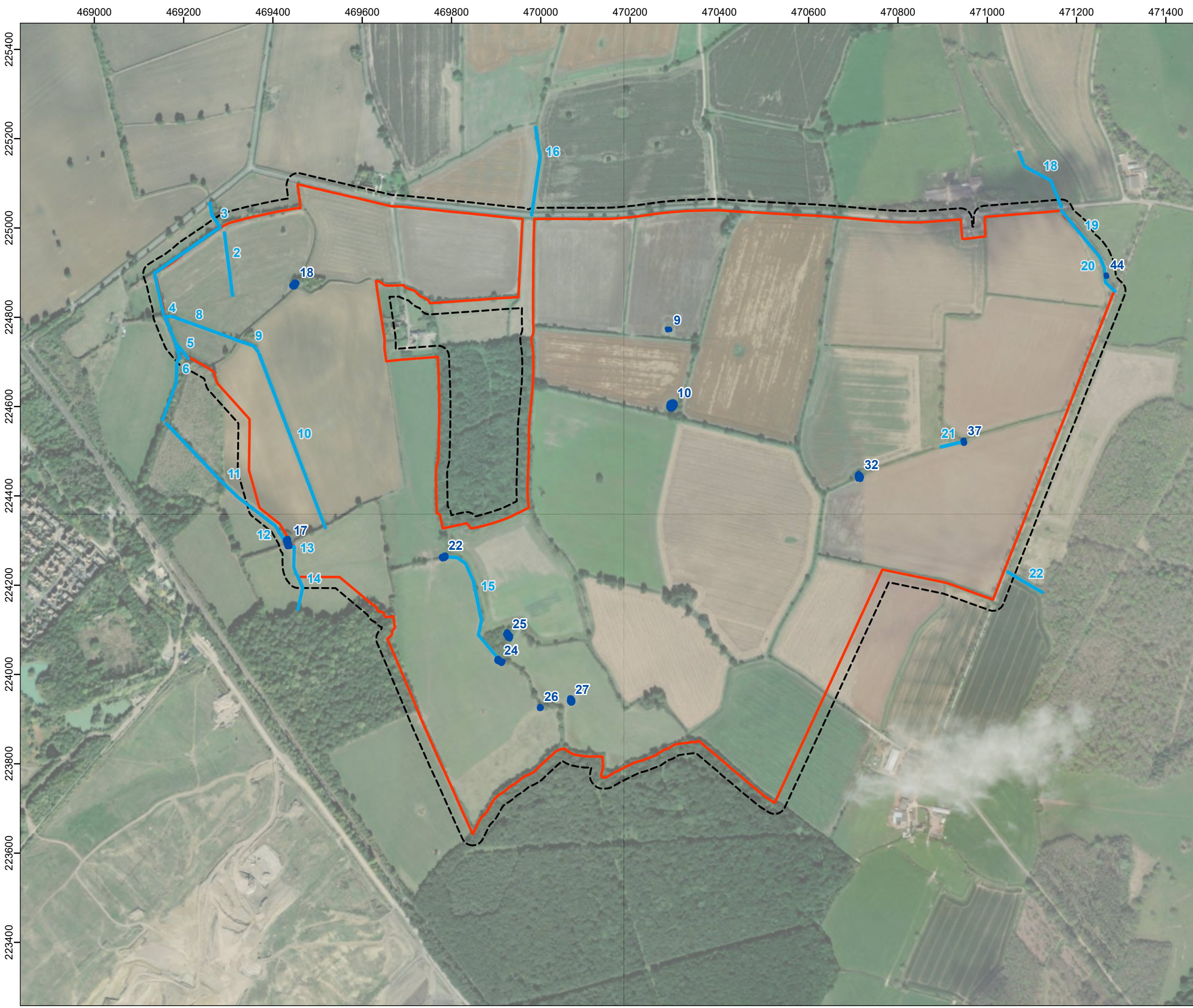
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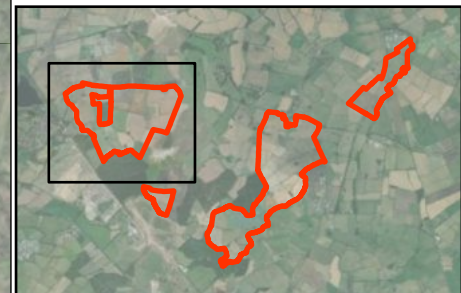
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 Site Location Plan



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 Hybrid Reference Layer: Esri UK, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, MET/NASA, USGS
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- Legend:**
- Site Boundary
 - 25m Buffer
 - Ponds
 - Watercourses



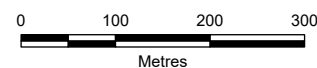
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Waterbodies and Watercourses Within the Site
Boundary and Within 25m of the Site Boundary
Page 1 of 4



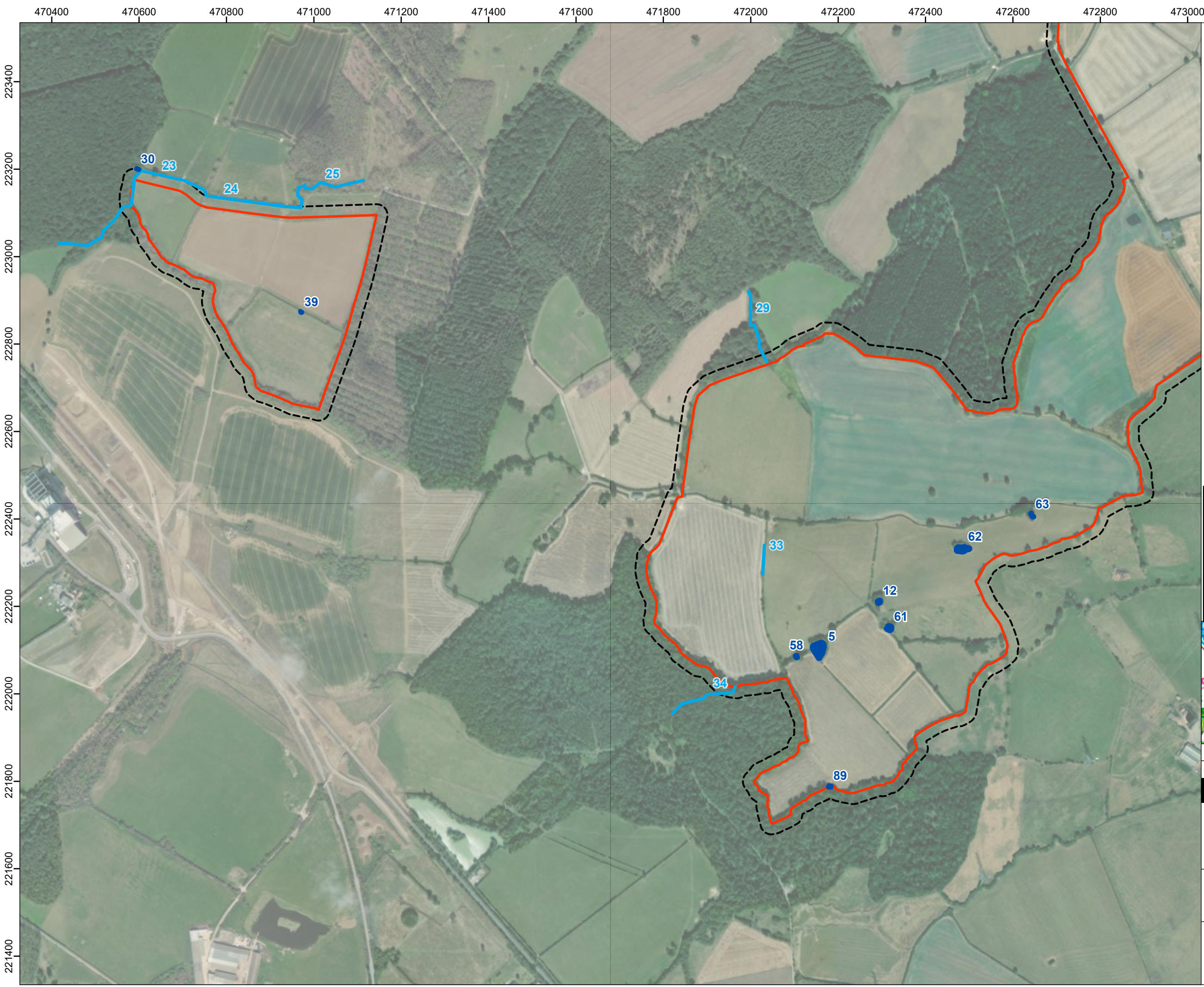
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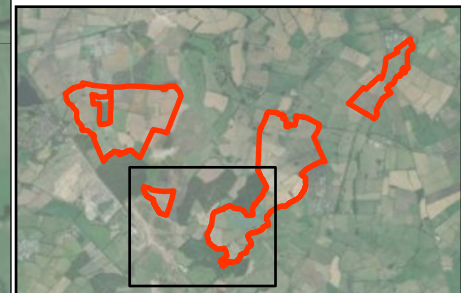
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Legend:

- Site Boundary
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- Ponds
- Watercourses



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Waterbodies and Watercourses Within the Site
Boundary and Within 25m of the Site Boundary
Page 2 of 4

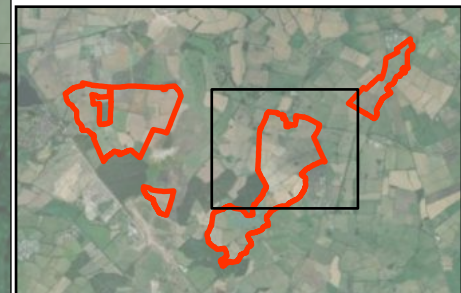
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- Site Boundary
 - 25m Buffer
 - Ponds
 - Watercourses



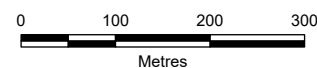
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Waterbodies and Watercourses Within the Site
Boundary and Within 25m of the Site Boundary
Page 3 of 4



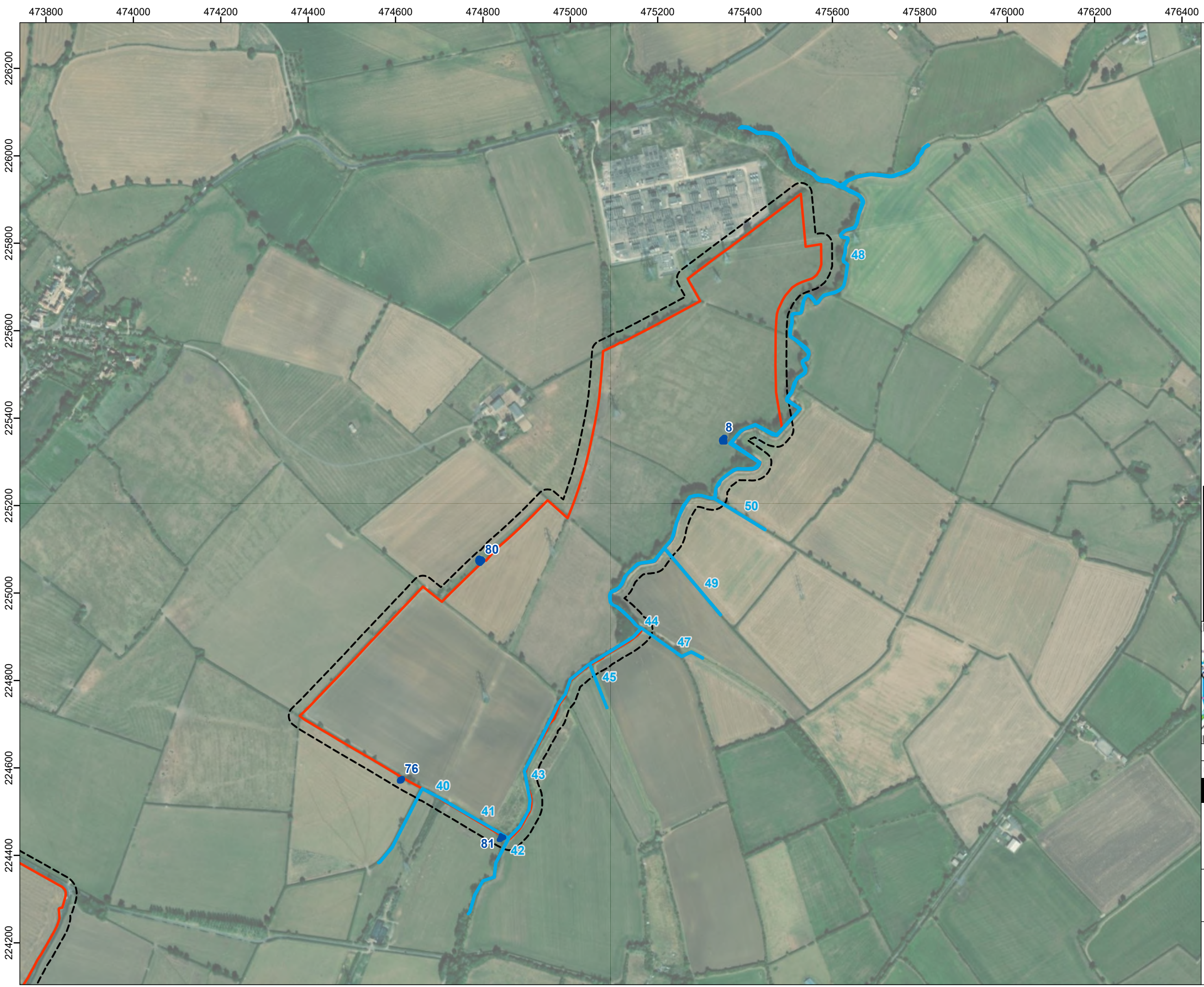
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


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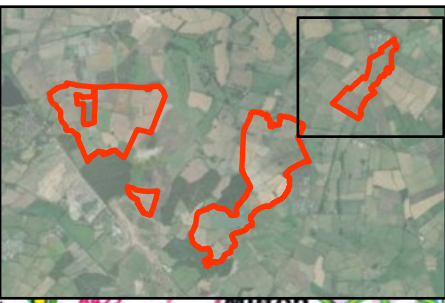


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- Legend:**
-  Site Boundary
 -  25m Buffer
 -  Ponds
 -  Watercourses



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Waterbodies and Watercourses Within the Site
Boundary and Within 25m of the Site Boundary
Page 4 of 4

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Appendix G

Cultural Heritage Stage 1 Assessment and Figures



Rosefield Solar Farm

Stage 1 Setting Assessment



1. Table of Contents

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 - 1.1. Scheduled Monuments 3
 - 1.2. Listed Buildings..... 3
 - 1.3. Conservation Areas 6
 - 1.4. Registered Park and Gardens 6
 - 1.5. Non-designated Assets..... 6

Stage 1 Setting Assessment

1. Setting of Heritage Assets in the Study Area

- 1.1.1. There are 461 designated heritage assets recorded within the 5 km study area beyond the Site of the Rosefield Solar Farm. There are a further 195 non-designated heritage assets recorded within the 1 km study area. The setting of these assets will be discussed further in later stages of the EIA process proportionately to the significance of the assets and the likely effects. The purpose of this report is to screen the assets to identify those where a significant effect is possible and should therefore be taken forward for more detailed assessment.
- 1.1.2. The Stage 1 Setting Assessment carried out here has been undertaken with reference to Historic England’s Good Practice Advice in Planning Note 3 (Second Edition) on The Setting of Heritage Assets¹. A Zone of Theoretical Visibility (ZTV) was made available for this setting assessment and those heritage assets outwith the ZTV have been scoped out. During the site visit all accessible assets located within the ZTV were visited. Those heritage assets which did not have intervisibility with the proposed development have been omitted from further setting assessment due to localised screening in the area from either buildings or significant vegetation. Furthermore, those heritage assets which do not derive heritage significance from their setting, or those which have a setting that does not extend into the Site have also been scoped out from further assessment.
- 1.1.3. The table below lists the heritage assets within the study area that have been identified for further assessment.

Table 1. Heritage Assets scoped into further setting assessment

HER/ Designation Ref	Name	Status
1000597	Claydon	Grade II Registered Park and Garden
1288461	Claydon House	Grade I Listed Building
1212262	23, Orchard Way	Grade II Listed Building
1212347	Weir Cottage	Grade II Listed Building
1212259	1 And 3, Orchard Way	Grade II Listed Building
1212261	Pond Cottage	Grade II Listed Building
1117815	Finemerehill House	Grade II Listed Building
1214849	Pond Farmhouse	Grade II Listed Building
1289627	5, Orchard Way	Grade II Listed Building
1289628	Quamby	Grade II Listed Building
1319271	Dry Leys Farmhouse	Grade II Listed Building
n/a	Middle Claydon	Conservation Area
n/a	Botolph Claydon	Conservation Area

¹ [The Setting of Heritage Assets \(historicengland.org.uk\)](http://historicengland.org.uk)

MBC26340

Catherine Farm

Non-designated heritage asset

1.1. Scheduled Monuments

- 1.1.4. There are six scheduled monuments within the 5 km study area which are made up of:
- A Preceptory of the Knights Hospitallers, associated fishponds, medieval settlement of Hogshaw and the site of the medieval church of St John the Baptist (NHLE1405586)
 - Two medieval deserted villages (NHLE1006938; NHLE1006939)
 - A medieval standing cross (NHLE1015267)
 - A medieval moated site (NHLE1017511) and
 - Norbury Iron Age univallate hillfort (NHLE1017514)
- 1.1.5. The Preceptory of the Knights Hospitallers and associated features (NHLE1405586) lies within two fields to the west of Claydon Road and is well-documented. Following the Norman Conquest in 1066 the manor of Hogshaw was held by William Peverel whose son granted the lands to the Hospitallers who founded the Preceptory. The Preceptory forms a moated enclosure with a leat running south connecting it to the two fishponds. Aerial photographs to the south of the ponds show a rectangular block of ditched enclosures which represent a continuation of the site of the village, the known remains of which lie to the east of the moated site. The former church of St John the Baptist partly lies beneath the vicinity of Ox House to the south-east of the moated site. The surrounding agricultural fields contribute to the significance of the monument as they reflect the original setting of the preceptory and village within a rural landscape, although the currently field pattern is typically of 18th and 19th century date. The rural character of this monument's setting will not be materially altered by the presence of the solar farm and this asset will not be included in the ES.
- 1.1.6. The deserted medieval village at Fulbrook Farm (NHLE1006939) is poorly documented but it has been recorded that the manor was originally enclosed with a moat, of which only traces remain. The moat surrounds an interior platform which is not partly in the farmhouse gardens and lies partly in an adjacent field. This has resulted in some alteration to this part of the monument. Aerial photography has also allowed the extent of the settlement to be plotted with two areas of trackways and enclosure patterns visible. The surrounding agricultural fields contribute to the significance of the monument as they reflect the original setting of the village within a rural landscape. At approximately 1.5 km to the east of the Site the rural character of the village's setting will not be materially altered by the presence of the solar farm and this asset will not be considered further in the ES.
- 1.1.7. The second deserted medieval village of Denham Lodge (NHLE1006938) as well as the medieval moated site (NHLE1017511) and Iron Age hillfort (NHLE1017514) recorded within the 5 km study area have no intervisibility with the Proposed Development. These heritage assets are outside the ZTV and no change to the setting of these monuments is predicted, they will not be considered further in the ES.

1.2. Listed Buildings

- 1.2.1. There are 438 listed buildings in the 5 km study area including eight grade I listed buildings, 26 grade II* listed buildings and 404 grade II listed buildings. 191 of these

listed buildings are located within the ZTV. Those not within the ZTV will not be considered further in the ES. The 191 listed buildings within the ZTV are made up of:

- 96 houses and cottages, mainly in villages
- 12 churches (4 grade I, 8 grade II*)
- 2 church crosses
- 7 public houses
- 39 farmhouses
- 15 agricultural buildings
- 3 country houses
- 8 sets of gates, gatepiers or walls
- 1 bridge
- 2 water pumps
- 1 well head
- 2 war memorials
- 1 telephone kiosk; and
- 2 Royal Ordnance buildings.

Houses and Cottages

- 1.2.2. The majority of listed houses and cottages are small dwellings within settlements. They are of varying dates, styles and materials but all derive significance and their principal reason for designated from the architectural and historic interest inherent in their fabric as examples of vernacular architecture. They are experienced within their respective settlements as part of the street scene and those on the edges of the settlements also glimpse their wider rural surroundings. The wider rural surroundings of these buildings makes a minor contribution to their significance and in most cases the site visit undertaken on 10/10/2023 has indicated that the setting of the buildings will not be altered by the presence of the proposed development due to the distance from the Site, topography and intervening vegetation or buildings. These buildings will not be considered within the ES. During the site visit six grade II listed houses were identified which are potentially going to have their setting affected by the Proposed Development. These six listed buildings are 23 Orchard Way (NHLE1212262), Weir Cottage (NHLE1212347), 1 and 3 Orchard Way (NHLE1212259), Pond Cottage (NHLE1212261), 5 Orchard Way (NHLE1289627) and Quamby (NHLE1289628). These will be taken forward for more detailed considered within the ES.

Churches and Church Crosses

- 1.2.3. The churches range in date from the 12th to the 19th century and derive their significance from their architectural and historic interest as examples of ecclesiastical buildings. They also have a degree of communal value as focal points for religious and social activities within their respective communities. Churches have a functional relationship to their surroundings with defined territories. That relationship is not predicated on the appearance of the parish. The closest church, the Church of All Saints (NHLE1214762) within Claydon Registered Park and Garden, is c.740 m from the Site and is surrounded

by mature trees. None of the churches derive significance from views that include the Site due to their scale and distance from the Site. Furthermore, solar schemes have a lower profile in comparison to other forms of development and are often less prominent in long distance views. As a result, these assets will not be included in the ES.

Farmhouses and agricultural buildings

- 1.2.4. The farmhouses derive more significance from the agricultural surroundings than the other dwellings referred to above due to their having a functional relationship with agricultural land. Those in close proximity to the Site may have included parts of the Site within their historic land holding and therefore derive heritage significance from the current agricultural land use of the Site. Those listed farmhouses which are likely to be affected by the Proposed Development include Pond Farmhouse (NHLE1214849), Finemerehill Farmhouse (NHLE1117815), and Dry Leys Farmhouse (NHLE1319271), all are grade II listed. These buildings will be considered further in the ES.
- 1.2.5. The majority of the listed farmhouses and agricultural buildings further from the Site and changes in land use in their wider surroundings are not considered to affect their heritage significance. They will not be considered in the ES.

Country Houses

- 1.2.6. Claydon House was built in the 18th century and was later remodelled in the 19th century. The House sits within a grade II registered park and garden and is surrounded by other listed buildings such as stables, a church, and an archway. The grade II registered park and garden and ancillary listed buildings contribute to the significance of the house. The wider agricultural surroundings also make a contribution to the significance of the house, although this contribution is smaller. The grade I listed building of Claydon House will be considered further in the ES.
- 1.2.7. The remaining two country houses, Winslow Hall (NHLE1279357) and St John's Manor (NHLE1289087), recorded within the study area within the ZTV are both over 2 km from the Site and do not draw significance from views across to the Site. These will not be considered further in the ES.

Other Buildings

- 1.2.8. The military buildings are two Royal Ordnance establishments. Although they will derive significance from their association with one another, the wider surroundings are not considered to contribute to their heritage significance and they will not be considered in the ES.
- 1.2.9. The telephone kiosk derives significance from its artistic and architectural interest as examples of the "red phone box" designed by Gilbert Scott. It is experienced only in close proximity within its settlements and the positive contribution of setting to its significance does not extend to the Site. It will not be included in the ES.
- 1.2.10. The war memorials derive significance from their historic and artistic interest as commemorative monuments. They are experienced only in close proximity within their respective settlements. The positive contribution of setting to their significance does not extend to the Site and they will not be included in the ES.
- 1.2.11. The gates, gatepiers, wall and bridge recorded within the study area derive significance from their historic and architectural interest as ancillary aspects of country and manor houses. They are experienced only in close proximity to their respective houses or

buildings. The positive contribution of setting to their significance does not extend to the Site and they will not be included in the ES.

- 1.2.12. The public houses, water pumps and well head recorded within their study area derive significance from their historic, architectural and artistic interest as elements of the settlements in which they sit. They are experience only in close proximity to their respective settlements. The positive contribution of setting to their significance does not extend to the Site and they will not be included in the ES.

1.3. Conservation Areas

- 1.3.1. There are 12 conservation areas within the ZTV and 14 within the 5 km study area. They protect the historic cores of villages and derive significance from their character and appearance as small settlements, particularly the groupings of historic buildings both listed and non-listed. As rural settlements they derive significance from the wider agricultural surroundings, through this is not always visible from the designated areas due to later expansion of settlements, or hedgerows and other screening.
- 1.3.2. Botolph Claydon and Middle Claydon Conservation areas border the Site and have potential for visibility of the proposed development to affect the contribution that the rural surroundings make to their significance. They will be included for further consideration within the ES. The remaining 10 conservation areas are located over 1.7 km from the Site, and they are not anticipated to have visibility of the proposed development. They will not be included within the ES.

1.4. Registered Park and Gardens

- 1.4.1. There are three registered parks and gardens within the ZTV and 5 km study area, two grade I listed and one grade II listed. The grade II registered park and garden of Claydon sits c.300 m from the Site and was landscaped by James Sanderson between 1763 and 1776 for the Verney family. Claydon derives its significance from its historic and artistic interest as an 18th century landscaped park. The registered park and garden also derives significance from its wider agricultural surroundings as well as the woodlands to the south. The Site forms part of setting of the registered park and gardens and further assessment of Claydon will be included within the ES.
- 1.4.2. The remaining two registered parks and gardens sit over 3.5 km away from the Site and while they derive significance from their agricultural setting they are not predicted to have visibility of the proposed development. They will not be included within the ES.

1.5. Non-designated Assets

- 1.5.1. There is one non-designated heritage asset within the 1 km study area that will be included within the ES. Catherine Farm (MBC26340) sits 170 m from the Site within the Claydon Conservation Area. It derives its significance from its historic and architectural interest as an example of vernacular agricultural architecture. This asset is in close proximity to the Site may have included part of the Site within its historic land holding and therefore derives significance from the current agricultural land use of the Site.
- 1.5.2. The remaining 190 non-designated heritage assets within the 1 km study area derive their significance from their historical or archaeological interest and either do not derive any further significance from their setting or the positive contribution of setting to their significance does not extend into the Site. These assets will not be included within the ES.

Appendix 1 All known heritage assets within the study area

HER / Designation	Name	Description	Easting	Northing	Period	Status	Importance
N/A	Middle Claydon	The house and village are situated within a largely agricultural landscape of arable farmland, meadows and woodland with small villages situated amongst and on top of the surrounding low clay hills. The history of the ownership of the Manor of Middle Claydon, prior to the tenure of the Verney family, is complex. The Domesday Book records that in 1086 the manor, which was estimated at 10 hides, was held by a William Peveral. Through the succeeding decades the manor was held by several families until, in 1463, it came into the possession of Sir Ralph Verney.	471862	225418	Medieval	Conservation Area	Medium
N/A	Oving	The village of Oving occupies a hilltop site in the midst of the Quanton-Wing Hills Area of Attractive Landscape, one mile west of Whitchurch. The surrounding rolling countryside slopes gently down from the village and this provides fine panoramic views to the north, west and south towards North Marston, Quanton and Pitchcott.	478358	221269	Medieval	Conservation Area	Medium
N/A	Adstock	Adstock is a small village standing on elevated land two and a half miles north west of Winslow and four miles south west of Buckingham. Entrance to the village either from Thornborough to the north or from the A413 trunk road to the south, is characterised by high hedgerow enclosure which, on the southern approaches, is reinforced by the buildings and mature trees surrounding Adstock Manor Stud.	473619	230073	Medieval	Conservation Area	Medium
N/A	Botolph Claydon	Botolph Claydon is situated in rolling countryside in the Quanton-Wing Hills Area of Attractive Landscape, two and half miles south-west of Winslow. For a village of such relatively small size it has a surprisingly large number of attractive listed	473277	224393	Medieval	Conservation Area	Medium

buildings, extending along both Botyl Road and Orchard Way, the two principal roads in the village.

N/A	Grendon Underwood	The village of Grendon Underwood, which lies nine miles north west of Aylesbury and one mile north of the A41 trunk road between Aylesbury and Bicester, forms a straggling ribbon extending east – west for about one mile along Main Road and terminating at its western end with the Church of St. Leonards and the Old Rectory. Originally dating from the pre Norman Conquest days, most of the older properties we see today date from the late sixteenth and seventeenth centuries. Extensive infill development has taken place in the last twenty or so years, but small clusters of the older buildings survive to maintain a microcosm of its past character and charm.	468199	220659	Medieval	Conservation Area	Medium
N/A	Shipton	The tiny hamlet of Shipton, just beyond the eastern periphery of Winslow, at the junction of the A.413 with the B.4032 Swanbourne Road, provides an attractive backcloth against which to approach the village from either the south or east. Particularly prominent are the three roadside properties. The Pygthle, Rosemary Cottage and Rands Farmhouse, all of which are listed Grade II and located within an area designated as being of local archaeological significance. Similarly designated areas are also found west of Shipton Farm and east of Tinkers End.	477726	227363	Medieval	Conservation Area	Medium
N/A	Great Horwood	Great Horwood sits on a narrow ridge between two valleys. These two valleys contain small streams - tributaries of the Claydon Brook. The village sits below higher ground to the east, upon which are Little Horwood Manor and College Wood. To the north, west and south the village overlooks the surrounding stream valleys, affording good views from the settlement across adjacent agricultural land.	477132	231176	Medieval	Conservation Area	Medium
N/A	Church End	The village of Hillesden is located in an isolated and almost featureless landscape, some three and a half miles south of Buckingham. It comprises three quite distinct parts: the tiny Hillesden hamlet just off the Buckingham to Brill Road; a larger part known as Church End, approximately one mile south east of Hillesden hamlet, and a small ribbon of modern houses which	468653	228793	Medieval	Conservation Area	Medium

straddle the roadside midway between the other two areas, known as The Barracks.

N/A	Marsh Gibbon	Marsh Gibbon is situated to the north of the A41 Aylesbury to Bicester Road some 4 miles to the east of Bicester. The village originally consisted of a string of fairly loose knit farm holdings but new development, particularly since the turn of the century, has resulted in the gradual infilling of this loose framework. The farms around which the village grew are still functioning but the new housing consists largely of the homes of those working outside the village. Much of the old village remains intact, however, particularly at the western end.	464659	223038	Medieval	Conservation Area	Medium
N/A	North Marston	The area defined for conservation comprises the north and eastern part of the old core of North Marston stretching from the village hall at the north western end of the High Street to the complex of buildings in School Hill and Church Street at the Oving end.	477589	222737	Medieval	Conservation Area	Medium
N/A	Quainton	There are many aspects to Quainton that make it distinctive and worthy of Conservation Area designation, but perhaps the most fundamental is its setting. Quainton is picturesquely located on the lower slopes of Quainton Hill and due to its elevated position, spectacular panoramic views can be gained from numerous vantage points throughout the village. The elevated position of Quainton also renders it visually prominent in views from the surrounding landscape.	474758	220092	Medieval	Conservation Area	Medium
N/A	Swanbourne	Swanbourne is situated two and half miles east of Winslow, and nine miles north of Aylesbury. It is a mellow, well preserved village, extensive parts of the original fabric having remained unchanged since the 17th Century. It possesses a wealth of period houses and cottages, many of which are Listed Buildings and a number of working farms, with distinctive barns and outbuildings, which form an integral part of the street scene.	480174	227298	Medieval	Conservation Area	Medium
N/A	Waddesdon	The following Appraisal explains the features and characteristics of the Waddesdon estate and village that make them special, give them a sense of place and justify their status as a Conservation Area. Although the history of Waddesdon will be briefly alluded to in	473783	215928	Medieval	Conservation Area	Medium

		<p>this document, it is not intended to be a comprehensive history of the development of the house, gardens or surrounding area. There is a wealth of material written about the estate.</p>					
N/A	Winslow	<p>Winslow is unusual within the context of Aylesbury Vale, as its historic road layout appears to have survived relatively intact. The pattern of survival in the historic buildings of the town is a little less clear, although the large numbers of buildings which survive from the late 17th and 19th centuries suggest that these were periods of relative prosperity for the settlement.</p>	476997	227501	Medieval	Conservation Area	Medium
1006938	Deserted Village (Site Of) At Denham Lodge	N/A	475388	220660	Medieval	Scheduled Monument	High
1006939	Deserted Village (Site Of) At Fulbrook Farm	N/A	475160	222518	Medieval	Scheduled Monument	High
1015267	Quainton Medieval Standing Cross	<p>The monument, a Grade II* Listed standing stone cross, is located on the northern edge of Quainton village green. The cross is of stepped form and medieval in origin, with minor repairs of later date. It includes the base, composed of three steps, surmounted by the socket stone and the remains of the shaft.</p>	474657	220148	Medieval	Scheduled Monument	High
1017511	Moated Site 320m North West Of St Leonard's Church	<p>The monument includes a medieval moated site located to the west of the village of Grendon Underwood, at the foot of a broad slope descending from the parish church toward a narrow brook known as the River Ray.</p>	467413	221115	Medieval	Scheduled Monument	High
1017514	Norbury: A Slight Univallate Hillfort Immediately East Of Padbury Mill	<p>The monument includes a slight univallate hillfort located on the south western outskirts of the village of Padbury, immediately east of Padbury Mill.</p>	471121	230061	Iron Age	Scheduled Monument	High
1405586/M BC1129	Preceptory Of The Knights Hospitallers, Associated	<p>The monument includes the visible earthworks and buried remains of the Preceptory of the Knights Hospitallers, the tenements and enclosures of the medieval village of Hogshaw, two fishponds and the buried remains of the Church of St John the Baptist, which</p>	473739	222442	Medieval	Scheduled Monument	High

Fishponds, Medieval Settlement Of Hogshaw And The Site Of The Medieval Church Of St John The Baptist, 200m South Of Hogshaw Farm

served both communities. The site lies within two fields to the west of the Claydon Road, on high ground that rises to the north of Aylesbury. The preceptory of the Knights Hospitallers and medieval settlement of Hogshaw are scheduled for the following principal reasons: * Rarity: preceptories are rare nationally, with those of the Knights Hospitallers numbering originally 76 in total, not all of which survive; * Intactness: the full extent of the moated site the settlement and fishponds is preserved and there is no record of any damaging interventions. * Group value: the preceptory forms a good group with the fishponds, medieval settlement and site of the Church of St John the Baptist;. * Documentary evidence: there is good documentary evidence for the preceptory and the subsequent history of the settlement.

1000446	Waddesdon Manor	A late C19 country house, surrounded by contemporary formal and informal gardens, and an extensive park, laid out by Elie Lainé, incorporating the site of a C17/C18 park and the remains of the formal garden of Winchendon House.	474172	216018	Post-Medieval	Grade I Registered Park and Garden	High
1000597/M BC20416	Claydon	A mid to late C18 landscape park surrounding an C18/C19 country house, with further garden development in the C19. The 100ha site is bounded to the south by the Botolph Claydon to Charndon lane, to the west by a lane linking this lane with the Middle Claydon to Steeple Claydon lane, which forms the north boundary together with the village of Middle Claydon, and to the east by a brook at the bottom of a shallow agricultural valley. The setting is largely agricultural, with the small village of Middle Claydon adjacent and the other Claydons all within 2km of the site. To the south several woodlands also form part of the setting, with rides cut through them aligned on the house and park, of which one in particular is centred on the south front of the house. Low hill ranges to the west and south form a distant rim.	471899	225402	Post-Medieval	Grade II Registered Park and Garden	Medium
1000608	Wotton House	The historic designed landscape surrounding an early-C18 country house, with a contemporary layout, probably by George London and Henry Wise, developed into an extensive mid-C18 park for George Grenville by Lancelot Brown; William Pitt, later first Earl of Chatham, is credited with significant input with regard to the design. Date and rarity: as an outstanding example of a C18 country house	468297	216448	Post-Medieval	Grade I Registered Park and Garden	High

landscape, the with two major phases combining to create a design of exceptional interest; * Designers: the early-C18 phase is believed to be the work of George London and Henry Wise; Lancelot Brown was employed on the mid-C18 landscape design, in which William Pitt the Elder is known to have played a part, whilst Sanderson Miller contributed to the design of some garden buildings; * Historical association: the landscape lies at the heart of a network of cultural, political and design influences, being created for the Grenvilles, a significant family in later C18 politics, through whom the estate is linked with nearby Stowe, where Brown also worked; * Design and engineering: the mid-C18 landscaping demonstrates the invention and technical expertise for which Brown was known, particularly in the complex management of water, and the structure of planned views; * Survival: the landscape has survived largely undisturbed since the mid-C18; * Documentation: our understanding of the landscape is enriched by documentary sources, including evidence regarding its creation, and later accounts and depictions; * Group value: exceptionally strong group value with Wotton House and its pavilions gates and screen listed at Grade I, with other associated Grade-II structures; the pleasure grounds contain a number of listed garden buildings and features, which form part of the historic design.

1117786	57, Lower Street	House. C17 extended C18, altered. Timber frame with whitewashed brick infill on whitewashed rubble stone base. Frame of left bay is of slighter scantling. Whitewashed rubble stone and brick to rear wall. Thatch roof, hipped to left, half-hipped to right. Rebuilt brick chimney between right bays. 1½ storeys, 3 bays. Right bays have C20 3-light leaded casements to ground floor, 3 2-light in thatch, and central C20 door. Board door in left bay.	474282	220100	Post-Medieval	Grade II Listed Building	Medium
1117787	59, Lower Street	House. C17, altered mid-late C18. Colourwashed roughcast to front, rendered gables. Old tile roof, 2 large square intermediate brick chimneys, both rebuilt. 2 storeys, 5 bays. 4-pane sashes in wooden architrave frames. Centre bay has blind painted window in similar frame to first floor, and flush-panelled door, also with architrave frame and stone voussoir head. Interior shows timber frame in right gable and part of rear wall.	474269	220115	Post-Medieval	Grade II Listed Building	Medium

1117788	8-14, Lower Street	Row of 4 cottages, possibly once charity institutions. Mid-late C18. Red and vitreous brick with red brick quoins and window surrounds. First floor band course, whitewashed rendered plinth. Old tile roof, brick chimney to rear of centre. One storey and attic, 4 bays. Paired casements with diamond leading, partly missing: 6 windows to ground floor with segmental heads; 4 to first floor in gabled eaves-line dormers. 4 board doors with segmental heads.	474557	220033	Post-Medieval	Grade II Listed Building	Medium
1117789	24 And 26, Lower Street	Pair of houses. C17-early C18, altered. Timber frame with whitewashed brick infill, part with rubble stone plinth, the left bay of thin whitewashed brick to front. C20 tiled roof on slightly raised eaves. Chimney of thin brick to centre, other brick chimneys to right gable and to front between left bays. One storey and attic, 4 bays. Left bay has old 3-light leaded casement with segmental head, and another, partly leaded, to attic in left gable. 3-light wooden casements with single horizontal glazing-bars to remainder, 3 to first floor in gabled eaves-line dormers. 2 board doors in gabled trellis porches, one to centre, the other between right bays.	474450	220051	Post-Medieval	Grade II Listed Building	Medium
1117790	20, North End Road	House. 3 C17 bays, rebuilt to front, remainder surrounded by C20 extensions. Original rear and end walls retain much timber framing; front wall rebuilt in brick and covered with colourwashed roughcast, the ends and centre marked with pilasters. Hipped C20 tile roof, 2 rebuilt brick chimneys near ends of ridge. 2 storeys and attic, 3 bays with narrow extension to right and conservatory to left. C20 barred wooden casements, those to ground floor with segmental heads. Attic has 2 skylights and 2 dormers. C20 doors to centre and between original left bays, the latter with flat hood on brackets. Interior has deeply chamfered spine beams to ground floor and curved wind-braces in central attic room.	474297	220414	Post-Medieval	Grade II Listed Building	Medium
1117791	24, North End Road	House. C17, altered. Timber frame with whitewashed brick infill, rubble stone plinth. Right bay has whitewashed rubble stone to front and gable walls. C20 tile roof, chimney of thin brick between left bays, later brick chimney to right. One storey and attic, 3 bays. Irregular C20 metal casements, those to upper floor in gabled eaves-line dormers. C20 door in gabled whitewashed brick porch between left bays, another C20 glazed door between right bays. Lean-to to rear has slight timber frame, part with whitewashed brick	474330	220369	Post-Medieval	Grade II Listed Building	Medium

		infill, part weatherboarded. Interior shows diagonal braces in framing and diagonal wind-braces.					
1117792	Grange Farmhouse	House. C17, much altered C18 and early C19. Some timber framing with brick infill, mostly rebuilt in brick, the S. front with dentil eaves. Old tile roof, large external chimney-stack of C18 chequer brick at W. end. 2 storeys. 3 original bays with large early C19 and C20 extensions projecting to right and outbuildings attached to rear. S. front has irregular wooden casements, central C20 door, and another similar door in projection in angle to right. N. front has one original bay exposed, with half-hipped gable and moulded bargeboards. Interior: one room has chamfered cross beams; winder stair.	473511	220826	Post-Medieval	Grade II Listed Building	Medium
1117793	Dovecote 10 Metres To West Of Grange Farmhouse	Former dovecote, now workshop. Early - mid C18, altered. Thin chequer brick, small moulded wooden cornice below altered boarded eaves. Old tile pyramid roof with square central lantern, now bricked up. S. side has C20 brick chimney. 2 storeys, one bay. 3-light barred wooden casements to W. side, C20 door with gabled wooden hood to north.	473487	220844	Post-Medieval	Grade II Listed Building	Medium
1117794	Winwood Cottage	House. C17, altered. Timber frame with brick infill to gables and part of rear, remainder rebuilt in brick, part rendered, and whitewashed. Old tile roof, chimney of thin brick between left bays. 2 storeys, 3 bays. 4 3-light barred wooden casements with segmental heads to ground floor paired barred wooden casements to first floor, part of the front with eaves raised. C20 doors to left and centre, the central door below C20 half-timbered projection jettied on posts. C20 extension to rear of left bay. Interior has heavy framing in partition walls and stop-chamfered lintels to fireplaces.	474190	220257	Post-Medieval	Grade II Listed Building	Medium
1117795	12, Upper Street	House. C16 - C17, altered. Timber frame with whitewashed render infill, thatched roof, and rebuilt chimney with grouped shafts of thin brick between left bays. 2 storeys, 3 bays. Irregular leaded casements, those to ground floor centre and first floor of left bays old, remainder C20. Upper windows in right bays are cross casements, partly in thatch. C20 door to right. Another door to right of left bay has thatch hood and flanking old single leaded lights. Small wing to rear of right bay has some timber framing inside.	474478	220213	Post-Medieval	Grade II Listed Building	Medium

		Lean-to to remainder of rear. Interior: outer bays have heavy joists along axis of building, the left bay also with cross passage; centre bay has stop-chamfered spine beam and joists and single-sided stone fireplace; small blocked 2-light window in original rear wall has diamond and moulded mullions.					
1117807	Magpie Cottage	House. C17. Timber frame with whitewashed brick infill and blackened rubble stone plinth. Thatched roof half-hipped to right, brick chimneys to gables and between left bays. 1½ storeys, 3 bays. 3-light leaded casements, some with original fittings. First floor windows are irregularly placed: that to left below the eaves, that to centre in thatch, that to right in gabled eaves-line dormer with tiled surround. C20 door between right bays. Outbuilding attached to right is of whitewashed rubble stone with tiled roof and C20 door. Interior has chamfered spine beams, some stopped, and curved braces.	478198	221320	Post-Medieval	Grade II Listed Building	Medium
1117808	Ivy Cottage	Cottage. Early C18. Large blocks of coursed rubble stone, whitewashed, with timber lintels to openings, thatched roof and flanking brick chimneys. One storey and attic, 2 bays. Ground floor has leaded casements, 4-light to right, 3-light to left sharing lintel with off-centre C20 door. Attic windows in gables, small extension to rear.	478178	221319	Post-Medieval	Grade II Listed Building	Medium
1117809	The Old Butchers' Arms	House, formerly public house. Mid-late C18, altered early C19 and later. Brick, the lower storeys of chequer brick with plinth and first floor band course, the upper storey of C19 brick with dentil eaves. Left gable also has second floor band course. Slate roof, central brick chimney. 3 storeys and cellar, 2 bays. 3-light casements: ground floor has wooden casements with horizontal glazing bars; first floor has old barred wooden casements; second floor has C20 plastic casements. Central C20 gabled porch with C20 2-light barred wooden casement above. C19 extension to right is of stone and brick with 2 storeys, one bay of 3-light barred wooden casements, and half-glazed door. Cellar window in left gable.	478252	221248	Post-Medieval	Grade II Listed Building	Medium
1117810	Home Farmhouse	House. Late C17-early C18. Coursed rubble stone, old tile roof, brick chimneys to left gable and centre. Small moulded plaster eaves cornice, part restored, that to front with foliage ornament. 2	478306	221245	Post-Medieval	Grade II Listed Building	Medium

		storeys, attic and basement; 2 bays. Left bay has 3-light wooden casements, right bay has 2-light similar casement to ground floor and a basement window. Small window, now blocked with brick, below eaves to right of centre. Central board door. Brick and stone lean-to to left gable. Gable to street has 3-light wooden casements and C20 window to attic.					
1117811	Oving House	Mansion. Originally C17, completely remodelled and enlarged 1741-43 for Charles Pilsworth, with later C18 wings to sides and interior re-styled circa 1954.	478284	221206	Post-Medieval	Grade II* Listed Building	High
1117812	Stables And Coach House East Of Oving House	Former stables and coach-house, now garages and flat. Mid C18, altered. Front is of red and vitreous brick with moulded plinth and eaves; end to road is partly of coursed rubble stone. Hipped old tile roof with C20 brick chimney to right of centre, and central wooden cupola. 2 storeys, 5 bays. Barred sash windows with slightly cambered heads, those to ground floor with stone keyblocks and altered sills, those to first floor only half as tall. Ground floor outer bays have semi-circular brick arches with stone keyblocks and springers, the right with garage doors, the left blocked with extra sash window. Central 8-panelled door in rusticated wooden architrave frame with keyblock and pediment above. Cupola has small lead dome on hexagonal arcade of slender wooden columns, and square base with clock. Rear altered.	478324	221220	Post-Medieval	Grade II Listed Building	Medium
1117813	Church Of St. Giles	Parish church, now disused. Nave probably C12, C13 chancel, C14 and C15 fenestration, tower C15 and 16. Porch rebuilt 1662, remainder much restored 1864. Coursed rubble stone, tiled roofs. W. tower has plinth, diagonal buttresses, plain parapet, and single openings to bell-chamber with cusped rectangular heads. C15 W. doorway and window, both restored, the doorway with 4-centred arch and hoodmould, the window with 2 traceried lights. Nave has 2 bays of 2-light windows with cusped flat heads, now mostly C19, and central N. and S. doorways with 2-centred chamfered arches. N. doorway is blocked; S. door has cusped niche above and gabled porch with shallow chamfered arch. Chancel has diagonal buttresses, 2 restored lancets and moulded doorway to S., C19 vestry to north, and 3-light traceried E. window with small cusped roundel above. Interior: double hollow-chamfered arch to tower. C19	477533	220419	Medieval	Grade II* Listed Building	High

chancel arch on corbel columns with carved foliage caps and bases. N. wall of chancel has rectangular recess, S. wall has cusped piscina. C19 roofs and glass in E. window. C13 moulded stone book- rest has been moved to Oving church. Other fittings have been sold and dispersed. Building due to be converted to house at time of listing.

1117814	Lower Farmhouse	House. Circa 1830. Red brick with moulded plinth, panelled eaves, hipped slate roof and symmetrical brick chimneys. 2 storeys and basement, 3 bays. 3-pane sash windows, those to ground floor with flat brick arches. Barred wooden basement window to left. Central bay has 6-panelled door with semi-circular radiating fanlight in rendered doorcase with pilasters and open pediment. One window to rear has paired barred wooden casement with arched top lights. Cast iron guttering with ornamental lions' heads.	476804	220321	Post-Medieval	Grade II Listed Building	Medium
1117815/M BC17192	Finemerehill House	House. Probably 1875, possibly incorporating parts of an older building. For the Verney family's Claydon estate. Timber framed with diagonal braces and brick nogging, partly patterned. Half-hipped tile roofs, brick chimneys with diagonal shafts and cogged heads, the S. wing with central pair of stacks. L-plan with projection in rear angle. 1½ storeys and attic, 2 bays. Barred wooden casements, central door in gabled porch. 2 stone tablets found in porch are dated RD1628 and HV/FDV 1875. Listed as an unusually late example of local technique of timber-frame building, and for its picturesque quality.	471528	222355	Post-Medieval	Grade II Listed Building	Medium
1117816	Outbuilding Adjacent To North Of Brudenell House	Outbuilding, now part garage. Late C18. Chequer brick, moulded brick plinth and eaves. Half-hipped old tile roof. One storey and attic, 3 irregular bays. Left bay has C20 garage doors in slight projection. Centre bay has barred wooden window with gabled semi-dormer above and board door to right. Right bay has half-glazed door. Ground floor openings have segmental heads. Included for group value.	474917	220229	Post-Medieval	Grade II Listed Building	Medium
1117817	The Village Store	House and shop. C17 and early C18, altered. Front to road is of whitewashed rubble stone with large inset ammonites; E. side is timber- framed with whitewashed brick infill and rubble stone plinth; W. side rebuilt in whitewashed brick. C20 tiled roof, half-hipped to	474730	220162	Post-Medieval	Grade II Listed Building	Medium

front. Rebuilt brick chimney between rear bays. 2 storeys, 3 bays. E. side has irregular wooden casements with single horizontal glazing bars, and entry to centre in glazed lean-to porch. Gable to road has 3-light shop window and paired wooden casement above, both with segmental heads. Former outbuilding to left of gable, of whitewashed brick and weatherboard, is now incorporated into shop and has shop front and one board door.

1117818	34 And 36, Church Street	House. C17, altered. Colourwashed render and brick, some exposed timber-framing, C20 tile roof, rebuilt brick chimneys between wings and to left side. L-plan. 1½ storeys, 2 bays, that to left projecting. Irregular paired barred wooden casements, one single light to ground floor of right gable. Board door in right side wall of left bay. C19 2-storey extension of whitewashed brick to rear has one bay of sash windows.	474898	220177	Post-Medieval	Grade II Listed Building	Medium
1117819	Gatehouse At Denham Lodge	Gatehouse. C16-C17, altered. Front is of coursed rubble stone with chamfered plinth. Remainder has slobbered rendering over brick and stone with stone quoins and plinth, and timber trusses exposed in gables. Old tile roof. One storey, one bay to each side of central entrance. Entrance has chamfered stone jambs and wooden lintel. Left bay has barred wooden horizontal sliding sash in chamfered stone surround with double hollow-chamfered jambs. C17-C18 chimney of thin brick with stone quoins to left side. Altered queen strut and queen post trusses.	475370	220504	Post-Medieval	Grade II* Listed Building	High
1117820	Doddershall House	Large house. N.E. and S.E. wings built early C16 for Thomas Pigott, Sergeant-at-law; S.W. wing dated T.P.L. 1689 on rainwater heads; early C19 alterations.	472019	220143	Post-Medieval	Grade II* Listed Building	High
1117821	Lower South Farmhouse	House. C17, much altered early and late C19. Walls rebuilt in red and vitreous brick, C20 tiled roof with ornamental bargeboards, brick chimneys to right and between left bays. One storey and attic, 3 bays. Barred wooden casements: ground floor with 4-light casements in left bays and 3-light to right, all with segmental heads; attic casements in eaves-line dormers with half-timbered gables. Flush-panelled door between left bays in glazed lean-to porch. Lean-to at right end has another door. Parallel C19 range to rear. Central room has stop-chamfered spine beam and large fireplace in	472537	219420	Post-Medieval	Grade II Listed Building	Medium

late C18 pine surround with moulded dentil cornice. Included for group value.

1117822	Numbers 1 And 2 The Green And Number 2 Lower Street	Includes No. 2, Lower Street. 3 houses and shop. 2 bays to right are part of C17 L-plan house, refronted and extended 1882. Original building has timber framed gabled projections to rear, right gable rebuilt in brick, rendered front. Old tile roof, half-hipped to right, central chimney of thin brick. 2 storeys, 2 bays. Ground floor has C19 canted bay windows with segmental-headed sashes. First floor has 3-pane sash to right and C20 paired wooden casement to left. Central lobby entry has door with segmental head and rendered keyblock. Rear has an old paired leaded casement to first floor. Late C19-C20 extension to left is of red and yellow brick with wooden casements, 6-panelled door to right, and shop front to left with curved corner door.	474616	220053	Post-Medieval	Grade II Listed Building	Medium
1117823	10, The Green	Cottage. C17-early C18 altered. Timber frame with brick infill, part with rubble stone plinth. Old tile roof, flanking brick chimneys, that to left rebuilt C20; that to right attached to stack of No. 11, also C20. One storey and attic, 2 bays. C20 wooden casements: 3-light to ground floor, the right a bow window; 2-light to attic in eaves-line dormers with slate roofs. C20 door in lobby entry to left.	474624	220143	Post-Medieval	Grade II Listed Building	Medium
1117824	Quinton Windmill	Corn windmill, tower type, built 1830-32 by James Anstiss (Miller and Farmer), restored by the Quinton Windmill Society over a period of thirty-three years. Quinton Windmill, a brick-built tower mill completed in 1830, is listed at Grade II* for the following principal reasons: * Architectural interest: the windmill reflects in its design and machinery the specific function it was intended to fulfil and how it was adapted to meet changes in technology and in the economy; * Intactness: the original mill machinery and fittings are intact and in working order; * Rarity: it is an example of a tall six-storey windmill and is the third tallest windmill in England. It was altered to be operated by an auxiliary steam engine which unusually was placed within the structure of the mill.	474669	220220	Post-Medieval	Grade II* Listed Building	High

1117825	Market Cross	Remains of cross. Probably C15. Stone. Worn stop-chamfered shaft with small hollow at base of N. side. Square plinth on 3 steps. Scheduled Monument.	474654	220151	Medieval	Grade II* Listed Building	High
1117826	Numbers 35 And 36 (Hidden Cottage)	House, formerly a pair. Early and late C18. 3 bays to left have timber frame of slight scantling with whitewashed brick infill. Bay to right is mostly of whitewashed brick with modillion eaves. Old tile roofs, half-hipped to left; brick chimneys. 2 storeys, 4 bays. Irregular barred wooden casements, those to ground floor of bays one and 3 in small bay windows. C20 doors to centre and left of right bay, that to centre with board hood, that to right with cornice hood on brackets. Interior has spine beams with small chamfers.	474700	220087	Post-Medieval	Grade II Listed Building	Medium
1117827	1, Lower Street	House. C17, altered. Timber frame with diagonal braces and whitewashed brick infill. Half-hipped old tile roof, partly rebuilt central brick chimney. L-plan. 1½ storeys, 2 bays. Wooden casements with horizontal glazing bars, 3-light to ground floor, 2-light in gabled eaves-line dormers. Blocked window below eaves to right of centre. Central lobby entry with board door. Rear wing is mostly of whitewashed brick. Timber-framed and gabled projection in rear angle has old paired leaded casements. Small lean-to to remainder of rear.	474611	220021	Post-Medieval	Grade II Listed Building	Medium
1117828	5, Lower Street	House. C17, altered. Some timber framing but mostly rebuilt in whitewashed brick. Half-hipped thatch roof, partly tiled to rear; chimney of thin brick between right bays, C19 chimney to left. 1½ storeys, 3 bays. C20 leaded casements: 3-light to ground floor of right bays, 2-light with segmental head to ground floor left; 2-light to first floor of right bays in thatch eyebrows. C20 door between left bays with gabled timber hood. Conservatory to right.	474593	220015	Post-Medieval	Grade II Listed Building	Medium
1117846	Church Of All Saints	Parish church. Early C13 nave and chancel; later C13 S. aisle, extended to form S. chapel C14; C14 S. porch; C15 clerestory; early C16 W. tower; all much restored 1866 and 1889; C19 N. vestry. Former N. aisle was late C13, destroyed C16-C17.	478246	221373	Medieval	Grade II* Listed Building	High

1117847	Thatched Cottage	House. C17-early C18, altered. 2 storey gabled cross wing to left is timber framed with whitewashed brick infill, similar framing to right gable. 2 bays to right are of whitewashed coursed rubble stone with plinth. Thatched roofs, square brick chimney between right bays, another brick chimney with C19 cogged base to centre of cross wing. 2 bays to right are of one storey and an attic and have paired leaded casements to ground floor, that to right in heavy wooden frame; paired wooden casements in gabled dormers with tiled aprons; blocked doorway with small single casement to centre. Left bay has paired wooden casements. Entry to rear. Interior has chamfered spine beams and open fireplaces.	478169	221246	Post-Medieval	Grade II Listed Building	Medium
1117848	Ammonite Cottage	Small squatter cottage. Circa 1800. Whitewashed rubble stone, roof of corrugated iron over thatch, hipped to front, with small brick chimney to rear, two storeys, one bay. Paired barred wooden casements to front, two to ground floor, one above. Right side has similar casement and a paired leaded casement to first floor. Single storey extension to left is of whitewashed render with slate roof, similar casement and board door. Garage with corrugated iron roof to left.	478653	221780	Post-Medieval	Grade II Listed Building	Medium
1124220	Moat Farmhouse	House. C17, altered early C19 and later. Some timber framing in original N. walls and in E. gable, the latter with thin brick infill. S. front rebuilt in brick early C19, the left bay with some vitreous brick. Off-set brick plinth, first floor band course, dentil eaves. Old tile roof, chimney between left bays with grouped shafts of thin brick and off-set head. Large external brick chimney to right. 2 storeys and attic, 3 bays. Outer bays have 3-light leaded casements, those in right bay old, those to ground floor with segmental heads. Centre bay has C20 2-storey canted bay window. Old 2-light leaded casement with segmental head between right bays. Late C19 gabled brick porch between left bays. Small lean-to to right. Left side rebuilt later C19 in red and white chequer brick. N. front has low gabled C19 brick projection to left with some paired leaded casements, central lean-to with 3-light leaded casement and door, and gabled wing to right with lean-to extensions to left and front. Front lean-to has slate roof and row of leaded casements to dairy. 3-light barred wooden casement above. Interior has stop-chamfered cross beams in E. bay, and wind-braces in roof.	469778	217493	Post-Medieval	Grade II Listed Building	Medium

1124250	Upper Barn Farmhouse	House. C17, part rebuilt. Left bay and right gable have colourwashed render, probably over timber frame. Remainder of right bays rebuilt in brick and colourwashed, with brick and render plinth. Half-hipped old tile roof, brick chimney between left bays rebuilt C19. 2 storeys, 3 bays. Irregular wooden casements, those to ground floor with segmental heads, that to upper left slightly breaking through the eaves. C20 barred and glazed door to right. C19-C20 lean-to to rear. Some timber framing in internal partition walls.	471872	217744	Post-Medieval	Grade II Listed Building	Medium
1124251	Thatched Cottage	House. C17-early C18, altered mid C19. Rear wall is timber framed with brick infill on rubble stone plinth, the centre bay with large roughly curved braces and rubble stone of chimney stack to right. Right gable partly of rubble stone. Front rebuilt C19 in red brick with crosses and diapers in blue headers. Thatched roof, brick chimney to left of each bay. One storey and attic, 3 bays. Paired C20 casements with segmental heads to ground floor. C20 2-light window to centre in thatch. 2 intermediate board doors in gabled porches with depressed brick arches. C20 lean-to to left.	472075	216920	Post-Medieval	Grade II Listed Building	Medium
1124252	Stable And Barn Circa 20 Metres West Of Newhouse Farmhouse	Range of stables and barn. Late C18 and C19. Barn to left is of timber frame and weatherboard, with brick plinth and half-hipped old tile roof. 3 bays with central waggon entry. Stables are of brick with corrugated iron roofs. Taller block with one stable door to right; Lower bay, slightly set back, with 2 stable doors to centre of range. Range forms third side of farmyard with item 4/145.	471246	217890	Post-Medieval	Grade II Listed Building	Medium
1124268/M BC17414	Lower Greatmoor Farmhouse And Attached Barn	House and small barn. C17, altered. Timber frame with whitewashed brick infill, thatched roof, rebuilt brick chimney to left of centre. 1½ storeys, 2 bays. 3-light wooden casement to ground floor left, C20 metal casements to remainder: 2 2-light to ground floor right, 2 3-light in thatch. Lobby entry with board door. C19 single bay extension to right, of whitewashed brick with tiled roof, brick chimney, 2 storeys of C20 3-light metal casements, and C20 door to left with tiled lean-to hood. Small barn in range to left is of timber frame and weatherboard with thatched roof.	470461	222228	Post-Medieval	Grade II Listed Building	Medium

1124269	Lawn Farmhouse	House. C17, altered. Render over timber frame with brick infill to rear centre bays. Remainder rebuilt in brick and rendered. Old tile roof, formerly thatched; brick chimney between left bays. One storey and attic, 3½ bays. Ground floor has C17 3-light casements with moulded mullions and C20 leading. Attic has paired C20 metal casements in gabled eaves-line dormers. Board door between left bays, C20 gabled timber porch. Another door to right in lean-to porch. Half bay to right has single storey projection. Interior: central room has stop-chamfered spine beam and fireplace lintel.	469641	219888	Post-Medieval	Grade II Listed Building	Medium
1124270	Daffodil Cottage	House. C17, altered. Timber frame with whitewashed brick infill, the left gable of whitewashed rubble stone. Thatched roof, flanking brick chimneys, that to right C20. 1½ storeys, 2 bays. Ground floor has C20 leaded casements with tiled hoods. First floor has 2 C19 3-light wooden casements in thatch. Entry in small C20 porch extension to right. Large extensions to rear 1973-4. Interior shows heavy framing with diagonal braces, and has chamfered spine-beams, rubble stone fireplace with stop-chamfered cambered lintel, and diagonal wind-braces.	467950	220868	Post-Medieval	Grade II Listed Building	Medium
1124271	Crucks Cottage	Small house. C17 Remodelling of earlier cruck building. Whitewashed roughcast, thatched roof, flanking brick chimneys. One storey and attic, 2 bays. Ground floor has 3-light barred wooden casements with segmental heads; attic has paired wooden casement in thatch. C19 bay to right has late 1970s extension to front with hipped tile roof, door in left side, and similar barred wooden casements. Interior of original part retains 3 cruck trusses, the blades terminating just above the collar.	468354	220685	Post-Medieval	Grade II Listed Building	Medium
1124272	Shakespeare Farmhouse	House. Late C16 and C17 with some alterations. Tall cross wing to left has timber frame with diagonal braces and thin brick infill and plinth. Lower range to right has thin brick to ground floor and C18 chequer brick above. Old tile roofs. Crow-stepped gable and rebuilt chimney with 2 diagonal shafts to right. Main chimney between left bays is of thin brick with shafts grouped in cross pattern set diagonally on modillion base. 2 storeys, attic and cellar, 4 bays. Old leaded casements. Gabled bay to left has cross casements to main floors and oval window with paired casements to attic. Range to right has 4-light casements with transoms to ground floor outer	467846	220856	Post-Medieval	Grade II* Listed Building	High

		<p>bays, 3-light casements above and 4-light casement to centre of first floor. 3 hipped attic dormers with paired casements. Attic windows and central first floor window all have intermediate diamond mullions. Central board door with rectangular fanlight. Outshot to rear of right range, single storey C19 extension at right-angles to rear centre. Rear of left bay has 2-storey lean-to porch projection with C16-C17 board door in moulded frame. Interior: main stack has fireplaces of thin brick with 3-centred arches, that to ground floor left bay moulded and colourwashed, that above and to ground floor of second bay with chamfered arches; C16-C17 dog-leg staircase with moulded handrail, chamfered square newel posts with acorn finials and shaped splat balusters to upper flights; 2 moulded and stopped spine beams to ground floor of left bay, also a painted wall panel; stop-chamfered cross beams in ground floor room of second bay; some old glass and window catches.</p>					
1124273	Studley House	<p>House. Early C19, altered. Pebbledash over cob, C20 tile roof. C19 brick chimney between left bays, C20 brick chimney to right. 2 storeys, 3 bays of old 3-light leaded casements. Ground floor windows in right bays have lost their leading and now have cast iron bars in front. Board door between right bays; timber and glazed porch. Brick lean-to to rear.</p>	468558	220462	Post-Medieval	Grade II Listed Building	Medium
1124274	Tetchwick Moat Farmhouse	<p>House. C17, altered mid C18. Rear wall of front range is timber framed, remainder rebuilt in coursed rubble stone with first floor band course. Old tile roof, central chimney of thin brick. 2 storeys and attic, 5 bay fenestration. 4-pane sash windows, mostly replaced C20. Ground floor of right bays is irregular with 4-pane sash flanked by fixed barred windows. Central 6-panel door, top-lit, in wooden frame with cornice hood on shaped brackets, the leading of the hood dated 177?. Gables have old 3-light leaded attic casements. Brick lean-to to rear with barred iron casements, one in a gabled dormer, Range of single storey brick and weatherboard outbuildings, now incorporated into house, at right-angles to rear of right bays. Interior: C17-C18 winder stair in line with entry and stack; stop chamfered spine beams; old board doors; moulded surround to left gable window.</p>	467909	218823	Post-Medieval	Grade II Listed Building	Medium

1158334	Derwent Cottage & Tinders End	Pair of houses, once 3 cottages. C17 and C18. Large blocks of coursed rubble stone, partly rendered, with some brick, all whitewashed. Thatched roofs, 3 rebuilt brick chimneys. Irregular row of 3 builds with lower blocks of 2 bays flanking taller central bay. 1½ and 2 storeys. Barred wooden casements. Left block has 3-light casements to ground floor, one 2-light casement in thatch to right, and central board door. 2-light casements to centre bay and ground floor of right bays, 3-light casements to first floor of right bays. Board door between right bays has trellis porch with corrugated iron roof.	478146	221200	Post-Medieval	Grade II Listed Building	Medium
1158482	Lawn House	House. C17, altered. Timber frame exposed to rear, gables and first floor front of left bay. Brick infill, partly thin C17 brick, partly herringbone. Remainder of front range rebuilt in red and vitreous brick early C19 and later. Rear wing completely of thin brick with first floor band course and rubble stone plinth. Old tile roofs, chimney with base of thin brick between left bays of front range, another thin brick chimney to rear wing. Small C20 external chimney to front between right bays. 2 storeys, 3 bays. Irregular C20 diamond leaded casements. C20 gabled porch between left bays. Rear wing also has basement and attic with dormer window. According to RCHM interior has one room with C17 panelling, stone fireplace with depressed arch to first floor, and part of C17 balustrade to staircase landing.	468040	222216	Post-Medieval	Grade II Listed Building	Medium
1158483	Brudenell House	House. C16, refronted mid C18 with later C18 extensions. Red and vitreous brick with red quoins and window surrounds, moulded plinth and moulded wooden eaves cornice. Hipped old tile roof, irregular brick chimneys. Original wings to S. and E., late C18-C19 wing to N. forming V plan with later infill. 2 storeys, attic and cellar. E. front is of 5 bays, the outer bays slightly advanced with canted projections. Barred sash windows with gauged brick heads. Windows in left bay have original thick glazing bars. Centre bay has eaves-line dormer in form of a barred thermal window in shaped brick surround with moulded open pediment. Central barred and glazed door below rectangular fanlight with early C20 patterned glazing bars. S front has 5 narrow bays of similar sashes, the centre bay blind, the second bay having a C20 door with rectangular fanlight. Blocked cellar opening with segmental head. N. wing is of	474927	220208	Post-Medieval	Grade II* Listed Building	High

chequer brick with modillion eaves and leaded casements. Interior: ground floor rooms in S. wing have C18 bolection panelling, the W. room with a C18 moulded stone fireplace, the E. room with a C19 marble fireplace. Early C17 staircase. Hall to centre of E. wing has early C17 panelling, and C16 screen of linenfold panels with heraldic frieze incorporating name of George Brudenell, and pierced by 2 doorways with 4-centred arches. Hall also has moulded cross beams and altered stone fireplace with carved spandrels and tympanum, and early C17 overmantel with raised wooden panels and split balusters.

1158489	The Old Rectory	House. 1762. Brown and vitreous brick with red brick quoins and window surrounds. Brick plinth, moulded wooden eaves' cornice with modillions. Hipped old tile roof. 2 storeys, basement and attic, 5 bays. Ground floor has 2 Venetian windows with architrave arches and cornices on Doric pilasters. First floor has 3-pane sashes with gauged brick heads. 3 hipped dormers with old leaded cross casements and moulded wooden cornices. 2 segmental arches in plinth, the right with 2-light window to basement. Centre has 5 stone steps leading to 6-panelled door with semi-circular radiating fanlight in architrave arch and open pediment on Doric pilasters. Later C18 red brick wing to rear of left bays has similar wooden eaves' cornice. C19 additions to right at rear. Left side has C19-C20 canted bay windows.	467731	221035	Post-Medieval	Grade II Listed Building	Medium
1158492	4, Church Street	Small house. C17, altered. Timber frame with brick infill, tiled roof, rebuilt brick chimney to left. 2 storeys, one bay. Diamond-leaded casements, 3-light to ground floor, paired and single lights above. Board door to right. May incorporate remains of former early C16 building.	474719	220161	Post-Medieval	Grade II Listed Building	Medium
1158513	Grendon Hall	Former house, now offices for Springhill Prison. Dated 1882 on beam in chapel. By Rev. Randolphe Pigott for his brother Sir Digby Pigott. Red brick with painted stone quoins, bonded window surrounds and copings, and moulded brick eaves. Tiled roofs, brick chimneys. Jacobethan E-plan building with shallow projecting outer bays and porch. Outer bays have shaped gables and 2-storey canted bay windows with painted stone mullions and transoms, embattled ornament to parapets, and diaper panels between	468229	221982	Post-Medieval	Grade II Listed Building	Medium

		<p>storeys. 3-light attic windows with hoodmoulds and shields above. Intermediate bays each have 2 cross windows to each storey and 2-light attic dormers with stone crosses in ogee gables, Central porch has 3-light transomed window with hoodmould to first floor, 2-light attic window, and door in 4-centred stone arch with hoodmould. Stone shields above door and in shaped gable of porch. Chapel to rear of left wing has battlemented porch with 2-centred arch. Interior: ribbed plaster ceilings; fireplaces with 4-centred stone arches, that to dining room with wooden Gothic surround; ground floor doors in Renaissance style with carved ornament; first floor doors in moulded architraves with panelled and fluted friezes and dentil cornices; fine C17 staircase, re-sited, with turned balusters, moulded handrail and urn finials. Altered chapel has open truss roof, inserted floor, and coffin hatch with re-used C16 wooden surround.</p>					
1158531	Gatepiers, Pedestrian Gates And Railings At Entrance To Grendon Hall	Pair of gate piers with flanking pedestrian gates and curved railings, carriage gates missing. Circa 1882. Piers are of red brick with stone bases, moulded cornices and obelisk finials. Pedestrian gates and railings are wrought iron, the gates having standard panels with wavy Ionic pilasters and scrolled overthrows, the railings with scrolled standards.	467808	221835	Post-Medieval	Grade II Listed Building	Medium
1158544	Winters End	Cottage. Late C17-C18. Timber frame with diagonal braces, whitewashed brick infill and rendered plinth. Half-hipped thatch roof, rebuilt brick chimney to right. One storey and attic, 2 bays. C20 plastic casements, the ground floor with leaded paired and single lights to right, the upper floor with 2 paired barred casements in thatch. Door to left. Small 1960s extension to left, of whitewashed brick with thatched roof. Interior has narrow chamfered spine beam, rubble stone fireplace and rough roof timbers.	467848	220909	Post-Medieval	Grade II Listed Building	Medium
1158578	Grove Farmhouse	House. C17-early C18, altered. Timber frame with whitewashed brick infill to rear and upper part of right gable, remainder rebuilt in whitewashed brick. Thatch roof, half-hipped to right, large brick stack between left bays, later brick chimney to right. One storey and attic, 3 bays. 3-light wooden casements, single light between right bays, C20 half-glazed door to right of centre. Left bay has C19 2-	468606	220320	Post-Medieval	Grade II Listed Building	Medium

storey projection of whitewashed brick with slate roof and similar casements. 3 board doors to rear of original range.

1158581	Sharpshill Farmhouse	House. Late C18 and early C19. Left bay is of chequer brick with pale vitreous headers and dentil eaves. 2 bays to right are of vitreous and brown brick with quoins, vertical strips and narrow flush first floor string course all of red brick. Modillion eaves. Old tile roof, flanking brick chimneys, another chimney to rear. 2 storeys and attic, 3 bays. 3-light wooden casements with single horizontal glazing bars, those to ground floor with segmental heads. One hipped dormer between right bays with 3-light barred wooden casement. 4-panel door below in porch with tented lead roof and metal lattice sides. Later C19 wing to rear forming T-plan.	468392	219400	Post-Medieval	Grade II Listed Building	Medium
1158606	Denham Lodge	House. Mid-late C17, restored and extended 1970s. Main block is of dressed stone with projecting plinth and first floor band course; projecting end bays are of thin brick with similar plinth and band. Old tile roof, hipped over projections; chimneys of thin brick to rear. 2 storeys and attic, 7 bays. C20 leaded cross casements. 5 centre bays have hipped dormers with paired leaded casements, only 2 original, remainder C20, Central half-glazed door with rectangular leaded fanlight. Gable ends have segmental-headed openings, the right gable much rebuilt. C20 parallel range to rear, of old brick with tiled roof and similar casements. Interior has little of interest. Highly graded for moated site with gatehouse.	475383	220530	Post-Medieval	Grade II* Listed Building	High
1158624	Denham Hill Farmhouse	House. C17 and C18, altered early C20. 2 parallel ranges, the shorter rear range with brick ground floor and roughcast above. Brick in right bay is C17 laid in English bond. Front range has lower bay to right of C18 brick, remainder later brick with coggled eaves and first floor string. Early C20 tiled roofs, brick chimneys. 2 storeys, 3 bays to south. Barred wooden windows with segmental heads: 3 paired casements to upper floor of main block; the ground floor more irregular with 2 wide 3-light casements and a canted bay window to left. Barred and glazed door with pedimented wooden hood to left of right bay.	475885	220451	Post-Medieval	Grade II Listed Building	Medium

1158682	Barn 30 Metres To South West Of Lower South Farmhouse	Barn. Early C18. Timber frame and weatherboard, old tile roof. 5 bays, central waggon entry. Braced tie beams, double purlins, double queen strut trusses.	472503	219395	Post-Medieval	Grade II Listed Building	Medium
1158690	The Hollies	House. C17, altered late C19. Front rebuilt in whitewashed brick with moulded wooden eaves cornice. Whitewashed roughcast and render, probably over timber frame, to gables. C20 tile roof, central chimney of thin brick. 2 storeys and attic, 2 bays. Ground floor has late C19 canted bay windows with segmental headed sashes and painted hipped roofs. First floor has 3-pane sashes. Central 6-panelled door with segmental head. Left gable has old 3-light leaded casement to attic. Lean-to to rear.	474623	220069	Post-Medieval	Grade II Listed Building	Medium
1158760	16, The Green	House. Late C18, altered. Red brick, old tile roof, flanking brick chimneys. 2 storeys and cellar, 3 bays. 4-pane sashes, those to ground floor with altered heads, those above with shallow gauged heads. Cellar window with segmental head to right. Central C20 gabled brick porch with door and fanlight in depressed arch. C19 bay to rear of right bay, C20 extension to rear of left bay. Included for group value.	474688	220185	Post-Medieval	Grade II Listed Building	Medium
1158810	17, The Green	Cottage. Late C17-early C18. Thin chequer brick with band courses to first floor and at eaves-level of gable. Old tile roof, external brick chimney, partly rebuilt, to right side. 1½ storeys, one bay. Gable facing The Green has 3-light wooden casements with segmental heads and C20 glazing. Door in C20 gabled brick porch to left. Paired C20 metal casement to left side, just below eaves. Small lean-to to rear of chimney on right side.	474707	220159	Post-Medieval	Grade II Listed Building	Medium
1158830	45, The Green	House. C17-early C18, altered late C18 and later. Rubble stone plinth, timber frame with brick infill to ground floor and end walls, colourwashed roughcast above. Moulded wooden eaves cornice with small modillions. Old tile roof, rebuilt brick chimney between left bays, C19 brick chimney to rear right-hand corner. 2-storey, 3 bay range to left with taller gabled bay of 2 storeys and an attic to right. Irregular leaded casements, those to first floor old, all with wooden shutters. Board door in third bay has modest wooden open pediment on shaped brackets. Small extension set back to left.	474636	220027	Post-Medieval	Grade II Listed Building	Medium

1158834	Westcott Farmhouse	House. Late C18. Red brick, first floor band course, dentil eaves, hipped old tile roof, brick chimneys. Double pile. 2 storeys, 3 bays. S. front has 4-pane sash windows to upper storey, and barred tripartite sashes to outer bays of ground floor. Central half-glazed door below rectangular fanlight with patterned glazing bars. All openings have gauged brick heads. E. front has C20 sash and tripartite sash windows replacing 2- and 3-light cross casements, all with segmental heads. Canted bay window to left, central door.	471960	216789	Post-Medieval	Grade II Listed Building	Medium
1158843	The Sportsman	Public house. C17. Timber frame with diagonal braces and whitewashed brick infill. Half-hipped thatch roof, brick chimney between left bays, later smaller chimney to right. 1½ storeys, 3 bays. Barred wooden casements: 3-light to ground floor of left bays, canted bay window to right, one paired casement to centre of upper storey in thatch. Board doors to right of left and centre bays. Gable to street has similar 3-light casement to first floor. C20 extensions to far gable. Interior has stop-chamfered spine beams.	474602	220018	Post-Medieval	Grade II Listed Building	Medium
1158848	Cartsheds, Shelter, Barn And Store Adjacent To North West Of Newhouse Farmhouse	Ranges of cartsheds, cattle shelter, barn and store around 2 sides of farmyard. Late C18. Timber frame and weatherboard, brick plinths half-hipped old tile roofs, the barn roof with 3 small lozenges of darker tiles. Cartsheds and shelter are open to farmyard. Barn of 3 bays has central waggon entry, trusses with collars and braced tie beams, and double purlins. Store attached to right of barn.	471268	217913	Post-Medieval	Grade II Listed Building	Medium
1158856	Collett Farmhouse	House. Dated 1736 on quoin to left, but probably late C17. Coursed rubble stone, partly dressed to front, with first floor band course and narrow moulded wooden eaves. Wing to rear has timber truss in gable with thin brick infill. Hipped roof with C20 concrete tiles and rebuilt chimney of thin brick between left bays. L-plan. 2 storeys and attic, 3½ bays. C19-early C20 3-light transomed wooden casements, those to ground floor having shallow pointed stone arches with raised keyblocks and springers. Half bay between right bays has 2-light window over 5-panelled door, top-lit, with C20 gabled hood. 2 gabled dormers with paired wooden casements. Stone panel to first floor between left bays is carved with coat of arms in surround of oak leaves. Right bay has rooms with re-used C17 panelling, the upper room having a frieze inscribed with verses from Ecclesiastes and Proverbs.	470348	218401	Post-Medieval	Grade II Listed Building	Medium

1158963	2 And 2a, The Strand	Range of 2 houses. C17-early C18 alterations to late medieval building. Timber frame with whitewashed render infill. Thatched roof, half-hipped to right, part of the lower front pitch tiled over raised eaves. 4 brick chimneys. 1½ storeys, 5 bays. Ground floor has irregular barred wooden casements, the 4th bay with a canted bay window. Upper floor has 4 paired barred wooden casements, that in 4th bay in thatch the others in eaves-line dormers with slate or corrugated iron roofs. Half-glazed door between bays 3 and 4. Gabled projection to second bay has tiled roof, door with flanking single casements, and porch to front. This bay has flanking cruck trusses.	474695	220019	Post-Medieval	Grade II Listed Building	Medium
1158988	Water Pump Adjacent To North Of Moat Farmhouse	Water pump. Mid C19. Cast iron. Ringed shaft with fluted top and cover. Spout attached with ornamental leaves. Plain handle. Included for group value.	469778	217505	Post-Medieval	Grade II Listed Building	Medium
1158992	Townsend Cottage	Small house. C17, altered. Right bay has timber frame with diagonal braces and whitewashed brick infill, left bay recased in whitewashed brick. Half-hipped thatch roof, rebuilt central brick chimney. 1½ storeys, 2 bays. C20 leaded windows to ground floor, the left bay with French doors and bay window, the right bay with 3-light casement. Upper floor has old paired leaded casement in thatch to right, an old small leaded light to centre below eaves, and C20 paired leaded casement partly in thatch to left. Central C20 door with thatched hood on carved wooden brackets. Small single storey bay set back to left is half-timbered with tiled roof.	474208	220242	Post-Medieval	Grade II Listed Building	Medium
1211977/M BC16558	23, Botyl Road	House and disused shop, formerly cottages. C18 and early C19 with later C19 alterations. 2 bays to right are of red and vitreous brick with some timber framing to upper gable. Left bay is of red brick with half-bay extension in rat-trap bond to left. Similar extension to north along road. Thatched roof, half-hipped to right, 3 intermediate brick chimneys. 1½ storeys. 4 C19 wooden casements to ground floor, 2-light flanking 3-light, that to left barred. First floor has 4 gabled semi-dormers with paired barred casements and similarly glazed gables. 3 main bays each have doorway to right, that to centre bay blocked, the others with board doors. All ground floor	473350	224617	Post-Medieval	Grade II Listed Building	Medium

openings have segmental heads. Gable to street has C20 bay window and 3-light casement above.

1212142/M BC16561	Stable Block At Botolph House	Stable Block. Mid C18, altered. Vitreous brick in header bond with red brick dressings and moulded eaves. E. front altered with centre bays rebuilt in red brick, and dentil eaves to whole length. Hipped tile roof. One storey and attic, 5 bays. E, front has altered openings with brick arches and barred thermal windows. S. end has 2 openings with gauged brick arches, stone impost and key-blocks, and stable doors. W. front has lean-to with central gabled bay. N. end has altered C19 openings with central door in arch and flanking blind panels.	473390	224809	Post- Medieval	Grade II Listed Building	Medium
1212143/M BC16562	Botolph House	House. Circa 1712. E. front is of red header brick with gauged brick heads to windows, ashlar plinth and moulded wooden modillion cornice to eaves and pediment. N. and S, sides are of vitreous headers with red brick quoins and window surrounds, and moulded brick plinth. Rear is of chequer brick.	473419	224828	Post- Medieval	Grade II* Listed Building	High
1212144/M BC16563	Botyl Cottage	Cottage. C16-C17, altered. Timber frame with curved braces, thin brick infill and rubble stone plinth. Lower gable walls rebuilt in brick C18, the upper parts retaining queen strut trusses, that to left with hung tiles concealing patterned brick infill. Old tile roof, half-hipped to left. Chimney stack with grouped shafts of thin brick to right. 2 storeys, 1½ bays. Full bay to left has 3-light barred wooden casements; half bay to right has similar casement in timber-framed lean-to to front, and paired leaded casement above. C20 single-storey brick extension to left projects and has door in angle with left bay. Interior has moulded spine beam and spiral staircase with 2 C18 balusters. Upper room has arch-braced tie- beam over fireplace alcove with flanking old board doors, 2-light window to staircase, and curved wind-braces in roof. Probably part of a larger house.	473447	224864	Post- Medieval	Grade II Listed Building	Medium
1212145/M BC16564	Hickwell House	House. C17, extended C18-C19, and altered. Timber frame with diagonal braces and whitewashed brick infill. Thatch roof, half-hipped to right. Brick chimneys with rebuilt square shafts set diagonally, one to left, 2 between right-hand bays. 1½ storeys, 3 bays. Left-hand bays have C20 leaded casements, 3-light to ground	473416	224679	Post- Medieval	Grade II Listed Building	Medium

floor, 2-light in semi-dormers with glazed gables. Right-hand bay has 6-panelled door, top-lit to left. C18-C19 extension to left is of colourwashed brick with thatched roof and one bay of similar casements, irregularly placed. Timber-framed outshot and C19 brick extensions to rear.

1212146/M BC16566	Botolph Farmhouse	House. Early C18. Red and vitreous brick with red dressings. First floor band course, moulded eaves, red brick window surrounds with gauged heads. Tiled roof, brick coped gables, brick chimney to rear. 2 storeys, 5 bays. Paired barred wooden casements to first floor, altered ground floor has 2 4-pane sashes and central door with rectangular fanlight and wooden lintel. Blocked attic opening to right gable. Lower C19 block to left is of brick with dentil eaves, tiled roof, one tall storey and 2 3-light casements. C19 wing to rear.	473446	224750	Post-Medieval	Grade II Listed Building	Medium
1212147/M BC21818	White House Farmhouse	House. C16-C17, altered. Whitewashed roughcast, probably over timber frame, some framing exposed to left side. Rubble stone plinth. Old tile roof. Chimney stacks of thin brick with square shafts set diagonally, 2 to left side and right gable, 4 to centre. L-plan. 2 storeys and attic, first floor of main wing jettied over plaster cove with moulded wall plate and bressumer. 4 bays, that to left projecting to front and gabled with modillioned bargeboards. 3-light leaded casements, those to first floor with moulded wooden cornice tops. Left bay has smaller similar window to attic of front gable, canted bay window with leaded lights and transoms to right-hand return wall and C20 door in angle with main wing. Third bay has C16 door, boarded and studded, in moulded frame, and porch dated 1662 EVM 1894. Porch is of ashlar to front and thin brick to sides, and has 4-centred arch with shields to spandrels, fluted Doric pilasters on panelled plinths, moulded entablature continued round sides, and pediment. Single leaded light to left of porch. Centre of range has ashlar niche with shallow arched head. Interior: projecting wing has stone fireplace with 4-centred arch to ground floor.	473946	225617	Post-Medieval	Grade II Listed Building	Medium
1212148/M BC16568	Barn Vicarage	House. Late C16, altered. Timber frame with brick infill and plinth, brick pilasters with moulded caps to front corners. Old tile roof, external flanking chimneys. 2 storeys, 3 bays. Leaded casements, 4-light to outer bays, 3-light to centre, and additional 2-light to right of centre over door. 3 first floor windows have old leading and glass,	473914	225563	Post-Medieval	Grade II Listed Building	Medium

		one pane signed Peter Duncombe 1661. C20 board door. Interior: stop-chamfered spine beams, fireplace to left has chamfered and stopped stone jambs. Described in land terrier of 1607.					
1212149/M BC16569	Beech House	House. C17, much renovated 1977. Timber frame with ogee braces to left gable, diagonal braces to right gable and rectangular panels to front. Rendered and colourwashed infill, brick plinth. Tiled roof, central chimney stack of C17 brick, rebuilt. 2 storeys, 2 bays. C20 leaded casements, 2-light to left, 3-light to right. Door in C20 link to C20 extension with half-hipped roof to right. Small single storey brick extension to left. Interior has restored moulded spine beam and curved wind-braces in roof.	473955	225552	Post-Medieval	Grade II Listed Building	Medium
1212258/M BC16570	Farthings	House. C17, much rebuilt C19. Timber frame with brick infill, thatched roof, rectangular brick chimneys to right and centre, stack with 3 square brick shafts set diagonally between left bays. 1½ storeys, 4 bays. Ground floor has irregular paired and single C20 leaded casements. First floor has paired casements in thatch, some with old leading. C20 door to left of second bay.	473194	224549	Post-Medieval	Grade II Listed Building	Medium
1212259/M BC16572	1 And 3, Orchard Way	Pair of cottages. Dated 1839 on central tablet, probably incorporating older building. Timber frame with brick infill and brick plinth, old tile roof, flanking and central brick chimneys each with 2 square shafts set diagonally on off-set bases. 1½ storeys, 4 symmetrical bays, the outer bays lower and slightly set back with barred wooden single lights to ground floor front. Inner bays have barred wooden casements to front, 3-light to ground floor, 2-light in gabled semi-dormers, and flanking board doors. Paired leaded casements to rear of centre bays, one altered. Small C20 extensions to rear.	473291	224492	Post-Medieval	Grade II Listed Building	Medium
1212261/M BC16574	Pond Cottage	House. C15, altered C17, extended to south C18 and C20, and to north late C19. 2 centre bays are timber framed with colourwashed brick infill, the right bay with 2 cruck trusses. Late C19 bay to right is of rat-trap brick, C20 extension to left is of colourwashed render with planked half-timbering. Thatched roofs, brick chimneys, that to right of C15 bay with thin brick. Late C19 bay is of one storey, remainder of one storey and attic, with varied roof heights. Irregular C20	473200	224510	Medieval	Grade II Listed Building	Medium

		wooden casements. Rebuilt lobby entry to right of C15 bay. Fireplace dated 1643.					
1212262/M BC16576	23, Orchard Way	House. 2 C17 bays to left, late C18-early C19 bay to right. Timber frame with whitewashed brick infill. Thatched roof, half-hipped to street, hipped to left over additional half bay. Brick chimneys to left and between right-hand bays. 1½ storeys, 3 bays. Irregular paired casements, leaded to first floor and centre of ground floor, barred wooden casements to ground floor right, and horizontal sliding sash to ground floor left. Upper windows in thatch. Board doors in right-hand and centre bays. Small brick C19 extension to rear.	473085	224534	Post-Medieval	Grade II Listed Building	Medium
1212264	Tuchwood	House. C17 L-plan building with outshot and C19 extension in rear angle, refronted C19. Timber frame with brick infill to rear and sides, red brick to front with rendered plinth. Old tile roof to front, thatch to rear. Chimney to left has grouped shafts of C17 brick, small chimney of similar brick to front right-hand corner. 1½ storeys, 2 bays. C20 3-light leaded casements, those to ground floor with segmental heads, those to first floor in gabled eaves-line dormers. Entries to sides and rear.	473657	225741	Post-Medieval	Grade II Listed Building	Medium
1212345	New Farmhouse	House. Early C17, altered and refronted 1675 (formerly dated over front door), altered again C19 and C20, Ground floor is of dressed stone with rendered voussoir heads to windows. First floor is pebble-dashed. C19 tile roof with some fishscale patterning. Boxed eaves with moulded rail of former coving. 2 large chimney stacks of C17 brick to rear, that to left with flat pilasters, that to right with 'V' pilasters. 2 storeys and attic, 3 irregular bays. C20 barred wooden casements. Flush-panelled door between left-hand windows has wooden architrave frame, barred rectangular fanlight and rendered panel above with the coat of arms of Edmund and Mary Verney. Flanking single storey extensions. C19 brick and tile L-plan ranges to rear. Attic windows in gables.	473774	225617	Post-Medieval	Grade II Listed Building	Medium
1212346	Jasmine Cottage	House. C16, altered and extended C17 and later. Timber frame with whitewashed brick infill, far bay part rebuilt in whitewashed brick. Bay nearest street has curved braces and gable end with jettied first floor. Thatched roof. C17 brick chimneys, that between near bays	473727	225599	Post-Medieval	Grade II Listed Building	Medium

		with 2 rectangular shafts, that to far end with 2 square shafts set diagonally. L-plan. 1½ storeys, 3 bays. S. side has irregular 2 and 3-light wooden and leaded casements, those to first floor cut up into the thatch. 2 doors. N. side has irregular leaded casements and gabled projection to right-hand bay. Gable to street has paired leaded casement to first floor.					
1212347/M BC16582	Weir Cottage	House. C16-C17, extended C18. Range to north is timber framed with whitewashed brick infill, rear wing is of whitewashed brick. Half-hipped thatch roofs, brick chimneys to centre of each range. L-plan. N. range has 2 storeys and 2 bays, that to left slightly recessed and gabled with heavy curved braces. Paired barred wooden casements, similar small casement to first floor between bays. C20 door to left. Small tiled lean-to to ground floor of right bay. Rear wing is of one storey and attic, and 2 bays. Wooden casements: 3-light to left, 2-light to right. Central round oven projection.	473306	224398	Post-Medieval	Grade II Listed Building	Medium
1212348	1, Green End	House and post office. Late C16-C17, altered. Timber frame with whitewashed brick infill exposed in right gable. Front is mostly covered with whitewashed render but shows wall plate and ends of original rafters. Shingle roof, brick chimney between left bays. 2 storeys, 3 bays, C20 leaded casements, 3-light. to ground floor left-hand bays, 2-light to right single fanlight casement to first floor centre. C20 doors in right bay and between left bays. Later lean-to and C20 fiat-roofed extension to rear forming L-plan.	476754	225039	Post-Medieval	Grade II Listed Building	Medium
1212349	23, Green End	Small house. C16-C17, of 2 builds. Timber frame with diagonal braces and whitewashed rendered infill, front rendered and planked. Thatch roof, half-hipped to right. Central brick chimney stack with 2 rectangular shafts linked at head. One main storey and 2 storeys in the roof, 2 bays. Right-hand bay is slightly taller and later. C20 3-light leaded casements, those to first floor in gabled eaves-line dormers. Second attic storey has C20 paired wooden casement in right gable. Central lobby entry with C20 lean-to porch. Small single storey extension set back to right gable is rendered and tiled. Lean-to extension to rear.	476926	225109	Post-Medieval	Grade II Listed Building	Medium

1212350	Church Of St John The Baptist	Parish church. Nave and chancel C14, altered C15, W. tower C15 with 1983 repairs, all much restored 1880-81. Coursed rubble limestone, larger semi-dressed blocks to tower. Lead roof to nave, tiled chancel. W. tower of 3 stages with diagonal buttresses, moulded plinth, battlemented parapet and 2-light openings to bell-chamber. W. side has moulded doorway with 4-centred arch and 2-light traceried window above. Nave has late C15 windows, 3-light in E. bay, 2-light in W. bay. S. side has additional 2-light Decorated window to right of centre. N. and S. doors have 2-centred arches and hoodmoulds with worn carved head stops. Chancel has one bay of 2-light Decorated windows, small cusped lancet to S., and door to N. E. window is 3-light Decorated. Interior: double hollow-chamfered arch to tower. Nave has double-sided piscina with ogee arches in reveal of S.E. window, and roof with moulded tie beam inscribed RSBF 161(9?)5 IF. Double chamfered chancel arch, the inner order on semi-octagonal piers with moulded caps. Chancel has cinquefoil piscina and roof with C15 moulded wall-plates and tie beam. Fittings: C15 pewter chrismatory; C15 carved alabaster panel of Crucifixion; altar table dated Annis Hopper 1625, with turned baluster legs; C17 chair; panelled door to cupboard in N. wall dated RS 1735 GS. Late C19 glass; other fittings late C19.	476780	225000	Medieval	Grade II* Listed Building	High
1212351	2, Green End	Small house. C17-C18, altered. Whitewashed rough cast, probably over timber frame. C20 tiled roof, half-hipped to right. Central chimney of thin brick. One storey and attic, 2 bays. Barred wooden casements, 3-light to ground floor, 2-light in eaves-line dormer to left. Central lobby entry has board door in wooden architrave frame. Lean-to extensions to left and rear.	476835	225038	Post-Medieval	Grade II Listed Building	Medium
1212884	Green End Farmhouse	House. Central gabled wing is mid C18 with extension to left dated 1797 on brick, and late C19 extension to right. Chequer and red brick, old tile roofs, brick chimneys. T-plan, 2 storeys. Central wing projects and has moulded plinth, plain band course and chequered segmental heads to windows. Wooden casements with C20 glazing, 2-light to ground floor, 3-light to first floor, and blocked opening to cellar. 1797 wing to left has moulded brick eaves and 2 bays, 3-light leaded casements to first floor and ground floor left. Slightly recessed door to right. Right-hand wing has coggled brick string course, one bay of 3-light leaded casements with segmental heads	477140	225111	Post-Medieval	Grade II Listed Building	Medium

		to left, external chimney to right and canted bay window to right gable. Main entry to rear.					
1212889	4, North Marston Road	Cottage. C16-C17, possibly earlier, altered. Whitewashed brick over timber frame. Roof has corrugated iron over thatch, thin brick chimney to centre and later external brick chimney to right. One storey and attic, 2 bays. Front has paired C20 metal casements. Entry in lean-to extension to rear. Gable to street has similar casements to both floors and flush panelled door in lean-to to left. Interior: ground floor room to right has deeply chamfered and stopped spine beam and traces of paintings on beams in centre wall; timber framed fireplace with lathe and plaster infill, the upper part incorporating curved timber, possibly once part of cruck beam; spiral staircase in line with fireplace.	476752	224972	Post-Medieval	Grade II Listed Building	Medium
1212890	17, Winslow Road	House. C17 L-plan house, altered C18 and C19, extended C19. Timber frame with brick infill to rear, front refaced, the left bay in C18 vitreous brick with vertical strips of red brick, the right bay in C19 red and pale brick. Old tile roof, brick chimney to left. One storey and attic, 2 bays. Left bay has 2 late C19 sash windows to ground floor, right bay has C19 canted bay window with sashes and slate roof. First floor has gabled eaves line dormers, with paired barred casements, glazed gables and decorative bargeboards. C19 extension to right is of pale and red brick with old tile roof and flanking brick chimneys. 2 storeys, 1½ bays. Canted bay window to right, tripartite and single sash windows with gauged brick heads to first floor, door to left in gabled porch. Brick pilaster at junction with older house.	476574	225318	Post-Medieval	Grade II Listed Building	Medium
1212892	Lower End Farmhouse	House. Circa 1830. Red brick with first floor band course. Rendered and painted voussoir heads with keyblocks over windows. Hipped slate roof, boxed eaves, flanking brick chimneys. 3 storeys, 3 bays. 4-pane sash windows. Central half-glazed door with semi-circular stained glass fanlight in rendered and painted brick arch with impost and keyblocks. Outbuilding attached to right is not of special interest. 2-storey wing at right-angles to rear has one bay of 5-pane sashes and 4-panelled door to left, all with similar heads. Small barred casement over door. Similar late C19-C20 extension of 2 bays to gable of rear wing.	476840	225875	Post-Medieval	Grade II Listed Building	Medium

1212989	Rose Cottage	House. C17, altered and refronted in brick early C20. Timber frame to rear wall, partitions and upper gables, red brick to front and lower gable ends. Rubble stone plinth. Steeply pitched asbestos slate roof. Central chimney of C17 brick. 1½ storeys, 2 bays. Early C20 paired barred wooden casements, those to ground floor with segmental heads, those to first floor in semi-dormers. Blocked doorway to centre now has C20 2-light casement. Entries in late C19 and C20 extensions to rear.	476616	225340	Post-Medieval	Grade II Listed Building	Medium
1213257	Fulbrook Farmhouse	House. C16-C17 wing to north, C17-early C18 wing to rear, forming T-plan with east front possibly remodelled early-mid C18, C18 addition in angle to west. Altered C19. N. wing is of coursed rubble stone with C19 brick lean-to to front and upper storey rebuilt in brick and heightened C19 at west end. Remainder has C17 thin brick to first floor and coursed rubble stone to most of ground floor. Ground floor of E. side is of ashlar with moulded first floor string course, and flush ashlar quoins and window surrounds to upper storey. Tiled roofs. Brick chimneys to centre of each each wing, that to north of thin brick with 2 square shafts set diagonally. N. front is irregular with one storey and attic to left and 2 storeys to right. Left part has 2 bays of paired wooden casements, those to first floor in gabled dormers. Right-hand bay has tripartite sash to first floor, door in lean-to porch to left, and external chimney to right. Rear wing has hipped roof to south, 2 storeys and attic, and 2 bays. E. side has tripartite sash to ground floor right, 4-pane sashes to first floor and 3-pane sash in gabled dormer to right. Central 6-panelled door, top-lit, in C20 porch. On moated site with deserted medieval village.	474972	222494	Post-Medieval	Grade II Listed Building	Medium
1213263	Yeoman Cottage	Small house. C18. Whitewashed brick and coursed rubble stone with brick band course to first floor of left bay. Thatched roof, brick copings to gables, flanking brick chimneys. 1½ storeys and basement, 2 bays. 3-light barred wooden casements to all floors, upper windows mostly in thatch. C20 door to centre. Door and ground floor window to right have segmental heads. Single storey, 2-bay extension to right gable is of whitewashed brick and rubble stone with dentilled eaves and tiled roof.	477671	222641	Post-Medieval	Grade II Listed Building	Medium

1213264	Church Of St Mary	Parish church. C13 N. aisle, C14 S. aisle and porch, C15 chancel, N. vestry and W. tower, late C15 clerestory and alterations to S. arcade, chancel restored 1854. All restored 1920-21.	477705	222700	Medieval	Grade I Listed Building	High
1213473	4, Church Street	House. C16, altered. Heavy timber frame with brick infill, some brick C17. Some rubble stone to ground floor of right gable. Rear wall re-sited and rebuilt in rubble stone, now whitewashed. Old tile roof, probably altered C18, with flanking brick chimneys. 2 storeys, the upper originally jettied to front. 4 bays of irregular C20 leaded casements. Right bay has C20 half-timbered porch with lean-to tiled roof, door to left and 3-light casement to right. Small outbuilding with rubble stone plinth, weatherboarding above and corrugated iron roof, is attached to left. Interior has heavily jowled main posts and massive chamfered spine beams.	477625	222624	Post-Medieval	Grade II Listed Building	Medium
1213482	Burnaby House	House. Late C16-C17, altered early C20, Timber frame to first floor of front is close-studded with whitewashed plaster infill, Timber frame with brick infill to rear. Remainder rebuilt in brick, Upper part of right gable is pebbledashed above brick frieze. Half-hipped old tile roof, brick chimney between left bays. 2 storeys, 4 bays, Early C20 leaded casements, paired to first floor, cross casements to ground floor. Upper left-hand bay has original 2-light oak window, now blocked, with moulded jambs, central mullion and sill, and 2 diamond mullions. 6-panelled door to right of second bay. Small wing projects to rear of right-hand bay. Interior much renovated.	477643	222613	Post-Medieval	Grade II Listed Building	Medium
1213483	Moreton House	Small house. Late C18-early C19. Ground floor is of coursed and squared blocks of rubble stone, first floor is of brick with band course and cogged eaves. Old tile roof, brick copings to gables, flanking brick chimneys. Two storeys, three bays. Leaded casements, three-light flanking two-light, the outer ground floor windows with segmental heads. Central four-panelled door in gabled timber porch.	477721	222626	Post-Medieval	Grade II Listed Building	Medium
1213485	3, High Street	House. Late C16-C17, renovated. Timber frame with diagonal braces and brick infill, some herringbone. Rubble stone plinth. Left gable rebuilt in brick around stone chimney stack. Corrugated iron over thatch roof, flanking brick chimneys rebuilt C20, L-plan, 1½ storeys, 2 bays. C20 barred wooden casements, 3-light to ground	477445	222828	Post-Medieval	Grade II Listed Building	Medium

floor left, 4-light to right, 2-light in roof; C20 door to left in rebuilt brick walling. Similar wing to rear with C20 lean-to extension in rear angle, Outbuilding attached to far gable of rear wing.

1213489	29 And 31, High Street	Pair of cottages. Mid C19. Red and pale brick with projecting plinth, rubble stone to rear. Old tile roof, central brick chimney. 2 storeys, 3 bays. Barred wooden casements: 3-light with segmental heads to ground floor, 2-light to first floor. 2 board doors with segmental heads. Included for group value.	477534	222727	Post-Medieval	Grade II Listed Building	Medium
1213611	4, High Street	Cottage. C17. Timber frame with curved and diagonal braces, brick infill and brick and rubble stone plinth, all colourwashed. Corrugated iron over thatch roof, flanking rendered chimneys. One storey and attic, 2 bays. C19 barred wooden casements, paired to ground floor right. Board door in right gable. Weatherboarded outbuilding to left under same roof. Interior of cottage has wind-braces in roof and winder staircase to centre.	477365	222801	Post-Medieval	Grade II Listed Building	Medium
1213619	Home Farmhouse	House, Dated TS and SS 1696 on bricks. Timber frame to right half of front, right gable and rear. Whitewashed brick infill and rendered plinth. Left half of front rebuilt C19 in red and white chequer brick, now whitewashed. Half-hipped tiled roof with altered pitch. 3 brick chimneys. 2 storeys, 5 irregular bays. C20 leaded casements, irregular to ground floor, 3 3-light and one single light to first floor. C20 door to left of centre in C20 gabled porch with timber frame and herringbone brick infill. Interior much altered 1950s.	477397	222773	Post-Medieval	Grade II Listed Building	Medium
1213622	Blackberry Barn	Barn, now house. Late C17-C18, with late-C20 conversion. Timber frame and weatherboarded. Tiled roof with half-hip to left. 4 and 1/2 bays. C20 inserted windows to left and within former wagon entrance; 2 doors to right. INTERIOR: Roof structure consists of braced tie beams with tall queen struts, double clasped purlins and irregular braces, some curved.	478034	224021	Post-Medieval	Grade II Listed Building	Medium
1213623	47, Portway	Cottage. Mid C18. Whitewashed render over rubble stone. Thatch roof with brick chimney to left. One storey and attic, 2 bays. Paired barred wooden casements to ground floor, small barred single casement below eaves to right of centre. Central C20 door in boarded gabled porch with trellis panels and shaped bargeboards.	477644	222348	Post-Medieval	Grade II Listed Building	Medium

		Attic windows in gables. Small outbuilding of whitewashed brick with corrugated iron roof is attached to left.					
1213624	9-13, Quainton Road	Row of 3 cottages, originally a single house. C17. Timber frame with whitewashed brick infill. Whitewashed rubble stone to right gable. Half-hipped roof with corrugated iron over thatch, brick chimneys to gables and between left-hand bays. 2 storeys and attic, 3 bays. C19 wooden casements, paired to ground floor left -hand bays and first floor, 3-light to ground floor right. 2 additional single lights between left bays. 3 doors. Lean-to extensions to rear. Interior has stop chamfered spine beams and winder staircase in line with fireplace.	477261	222833	Post-Medieval	Grade II Listed Building	Medium
1213625	51, Quainton Road	House. C17, altered. Pebbledash over timber frame. Gable to street is rendered and whitewashed with exposed posts to corners. Slate roof, rendered chimneys to left and between right-hand bays. 2 storeys and attic, 3 bays. C19 3-light wooden casements, additional single casement between right bays. Board door between left bays, 4-panelled door to right. Attic windows to gables, Interior has chamfered spine beams, one stopped.	476928	222766	Post-Medieval	Grade II Listed Building	Medium
1213626	5, School Hill	Cottage. C17. Timber frame with one curved brace and whitewashed brick infill. Rubble stone plinth to right. Tiled roof. One storey and attic, 2½ bays. Paired wooden casements, those to attic in eaves-line dormers. Central C20 door, garage doors to right.	477586	222703	Post-Medieval	Grade II Listed Building	Medium
1214098	Oakham Farmhouse	House. Dated TJ 1803 on brick. Chequer brick with flush red quoins, window surrounds and gauged brick heads to openings. Dentil eaves with blue headers. Tiled roof, brick chimneys to left and between right-hand bays, both with off-set heads. T-plan with single storey and attic range to rear centre and outshot in N.W. angle. 2 storeys. S. front has 3 bays of C19 3-light wooden casements. Board door with architrave frame and C20 gabled porch between left-hand bays. Single storey weatherboard extension to left.	478839	225659	Post-Medieval	Grade II Listed Building	Medium
1214160	Buxlow Farmhouse	House. C17, altered and extended C19-early C20. Render over timber frame. Plinth partly of C17 brick. Tiled roofs, front pitch raised and slated. Flanking brick chimneys. T-plan with additional timber-framed wing in N.E. angle and early C19 extension to right. 2 storeys. S.W. front has 2½ bays with half-bay to centre, C20 paired	479455	225067	Post-Medieval	Grade II Listed Building	Medium

barred wooden casements in outer bays, central C20 door in architrave frame and C20 flat-roofed porch with shaped bargeboards. Extension is of one storey with one C20 casement. N.E. side to road has double projecting gables, that to left lower and narrower, and shaped eaves boards. C20 wooden casements including 2-light to attic in right gable. Ground floor obscured by attached outbuildings and garage. Single bay set back to right has C18-early C19 5-pane sash window to ground floor.

1214161	Church Of St Swithun	Parish church. C13 nave with later alterations, C15 N. aisle, C15-early C16 W. Tower, chancel rebuilt and remainder of church much restored 1863. C19 S. porch.	480105	227287	Medieval	Grade II* Listed Building	High
1214162	3, Mursley Road	House, formerly pair of cottages, C17, altered C18 and later. Timber frame to left gable and rear of left half. Gable has brick infill partly whitewashed, rear has rendered and whitewashed infill. Front rebuilt in brick C18 and late C19. Tiled roof, half-hipped to left, hipped to right. Brick chimney between left-hand bays has thin brick to base at rear. 2 storeys, 3 bays and lobby entry. Late C19 tripartite sash windows with segmental heads, paired sashes over lobby entry. 2 half-glazed doors with segmental heads, one between left bays, the other to right.	480225	227284	Post-Medieval	Grade II Listed Building	Medium
1214163	Number 2 Ivy Cottage And Number 4	Pair of cottages. C17, partly rebuilt C19, Timber frame with plaster, whitewashed brick and C19 brick infill, Old tile roof, half-hipped to right, central chimney of thin brick with 3 square shafts set diagonally. L-plan. One storey and attic, 2 bays to front, that to left gabled. Leaded casements. Left bay has 3-light casement to ground floor and 4-light canted oriel with tiled roof to attic. Right-hand bay has 3-light casements to right and in gabled dormer. Lean-to projection to left of right bay has similar casement and hipped roof over open porch to right. Half-glazed door. Left side has 2 doors in trellis porches and single storey half-timbered extension to far end.	480188	227245	Post-Medieval	Grade II Listed Building	Medium
1214164	The Old House	House. Late C16 T-plan house, much altered and extended late C18- early C19, with attached C18 former stable wing. Original house has timber frame with herringbone brick infill, now externally concealed with render. Extensions are of rendered brick. Old tile roofs, central chimney with 4 linked square shafts of thin brick,	480300	227258	Post-Medieval	Grade II Listed Building	Medium

rebuilt. Rendered parapets to main block. 2 storeys and attic. N. front of 3 bays has C19 3-light wooden casements to outer bays and small 3-pane sash with architrave frame to centre of first floor. Central late C19-C20 gabled porch. Single storey extensions at each end, that to right with parapet and stone plaque with shield and motto "Nec Prece/ Nec Pretio" in brick surround. Right gable of main block has 4-light leaded casement to attic. Rear has 7 bays of 3 pane sash windows in moulded architrave frames with board hoods. 3 centre bays project with shallow gable forming minimal pediment containing blind roundel. Flanking hipped dormers have moulded cornices and paired leaded casements. Later extensions to left, Stable wing is of red and vitreous brick with moulded brick eaves, partly rebuilt C19, to N., and of pebbledash over timber frame with brick infill to S. Old tile roofs, flanking brick chimneys, 1½ storeys, 5 bays. S. front has 2 gabled semi-dormers and C19-C20 gabled projection to centre, N. front has 2 carriage entries to left, and 4-pane sashes flanking stable door with barred rectangular fanlight to right, all with segmental heads. 3 irregular openings to first floor. Interior of house remodelled early C19 but retains 2 moulded stone fireplaces with 4-centred arches to ground floor, and 3 similar fireplaces to first floor.

1214279	Rectory Farmhouse	House. 2-bay C17 house, C18 block projecting to front left, C19 and C20 extensions to left. Original house is timber framed with whitewashed brick infill, stone plinth, thatched roof and large central chimney stack with thin brick to rear. 2 storeys and attic. Right-hand bay has paired C19 casements to ground floor front and gable, C20 metal casement to first floor of gable with single leaded casement to attic above. C20 door and porch to front with single light above. C18 projection to left is of whitewashed brick with timber framing to gable, and thatched roof. Later extensions are of whitewashed brick with thatched roof to right-hand bay and tiled roofs to remainder. Interior of original house has stop-chamfered spine beam and joists in right-hand room.	467959	222816	Post-Medieval	Grade II Listed Building	Medium
1214280	Church Of St Michael	Parish church. Nave originally C12, altered C14 and C15. C14 chancel, C15 W. tower. C19 restorations and vestry by G.G. Scott. Coursed rubble stone, lead roof to nave, tiled chancel. 2-stage tower with diagonal buttresses, battlemented parapet and 2-light	468000	222796	Medieval	Grade II* Listed Building	High

tracery openings to bell chamber. W. doorway has moulded 2-centred arch and 2-light tracery window above. Nave has buttresses and plain parapet. 2 bays. Perpendicular windows to S., 2-light to left, 3-light to right. 4-centred moulded arch, much restored, with old door. Slight projection for rood-loft staircase to right with small light above. N. side has restored 2-light tracery window. Chancel has 2 wide lancets with hoodmoulds to S., one to N., all much restored. C19 3-light Decorated E. window. Interior: nave has stairs to rood-loft and C15 main roof timbers. Double chamfered chancel arch on half-columns with moulded caps. Chancel has C19 piscina and aumbry. C15 octagonal font. Some C15 trefoil headed bench ends. Other fittings C19.

1214281	Hay Barn To West Of Farmyard At Manor Farmhouse	Hay barn. Early C19. Brick base, timber frame and weatherboard above, half-hipped tiled roof. 3 bays, central waggon entry. Trusses have braced tie beams, collars and small raking struts. Included for group value.	467974	222746	Post-Medieval	Grade II Listed Building	Medium
1214282	Westfield Farmhouse	House. Early C18. Coursed rubble stone, steeply pitched roof with C20 pantiles and flanking brick stacks, external to right. 2 storeys, 3 bays. Ground floor has tripartite sash windows to outer bays, first floor has C19 wooden casements, 3-light flanking 2-light. Timber lintels, planked to first floor and rendered to ground floor left. Central panelled door, top-lit, under flat wooden hood on brackets. Single casement to attic in left gable.	467057	228410	Post-Medieval	Grade II Listed Building	Medium
1214322	Manor Farm Cottage & Manor Farmhouse	House and cottage. Early-mid C18, extended C19. Main block has rubble stone base, chequer brick above with first floor band course, and moulded wooden eaves cornice. Old tile roof, brick stacks to right gable and left of centre. 2 storeys and attic, 6 bays. 2 ground floor bays to right have paired barred wooden casements. Remainder have 4-pane sash windows with wooden moulding to top of frame. Ground floor windows have cut brick heads. First floor windows of bays 2, 3 and 5 are blocked. Single light window between bays 4 and 5. 3 gabled dormers with similar sashes. Half-glazed, panelled door in 4th bay, recessed with panelled reveals and reeded surround. Gabled hood above at band course level has moulded bargeboards and carved scroll brackets. C19 cottage	468020	222765	Post-Medieval	Grade II Listed Building	Medium

		attached to left has stone plinth, brick to ground floor, tile-hung first floor, tiled roof half-hipped to left, and central brick stack. 2 storeys, 2 bays. C20 barred wooden casements and door with segmental heads.					
1214323	Cowshed On North Side Of Farmyard To West Of Manor Farmhouse	Cowshed C19. Brick base, timber frame and weatherboard above half-hipped tiled roof. 3 stable doors and 4 long C20 windows. Included for group value.	467979	222762	Post-Medieval	Grade II Listed Building	Medium
1214343	Nutley	House. Late C18. Rubble stone, once rendered, now scraped. Timber lintels to openings. Slate roof, flanking brick chimneys. 2 storeys, 3 bays. Ground floor has tripartite barred sash windows to outer bays., first floor has 3-light leaded casements. Half-glazed central door with large timber gabled hood on brackets. Parallel brick range to rear.	468592	228905	Post-Medieval	Grade II Listed Building	Medium
1214344	The Old Vicarage	House, former vicarage. 1870-71, by Sir George Gilbert Scott. Red and blue brick, brick plinth, some ornamental half-timbering with patterned brick infill. Tiled roof with cusped ridge, ornamental bargeboards, and brick stacks with pilasters. Arts and Crafts Vernacular Revival. 2 storeys, cellar and attic. 3 asymmetrical bays to front, projecting outer bays with half-timbered gables. Irregular wooden mullion and transom windows. Wider right-hand bay has half-timbered first floor jettied on wooden brackets and brick corbels, 4-light oriel window on brackets, and jettied gable. Centre bay has panelled, half-glazed door in timber gabled porch with cusping to open side panels. Bay set back to right has square 2-storey porch in angle.	468550	228828	Post-Medieval	Grade II Listed Building	Medium
1214345	Wall And Gate Piers To East Of Churchyard	Wall and gate piers flanking entrance to site of Hillesden house: C16-C17, brick with diaper patterning in blue headers to E., and brick coping. N. end rebuilt with stone coping, ramped up to rebuilt C18 square gate piers. Piers have brick plinth, minimal pilasters to sides and moulded stone cornices with ball finials. Included for group value.	468586	228774	Post-Medieval	Grade II Listed Building	Medium

1214347	Home Farmhouse	House. Mid C18. Chequer brick, first floor band course, small wooden eaves cornice, tiled roof, flanking brick chimneys. T-plan. 2 storeys and attic, S. front of 3 bays. C19 3-light wooden casements in outer bays, with segmental brick heads to ground floor. Barred C20 casement to first floor centre above ledged C20 door. Skylights to outer bays of roof. Rear wing extended to N. C20.	468828	228884	Post-Medieval	Grade II Listed Building	Medium
1214394	Old Red Lion	House, formerly inn. Dated 1BA 1684 on tablet over door. Coursed rubble stone, tiled roof, brick end stacks. Coped gables, ironstone kneelers. Deep wooden eaves cornice on scroll brackets, 3 between each window and 2 to ends, some with carved acanthus ornament. 2 storeys and attic. 5 bays of leaded cross windows, some C17, some modern replacements; flanking half-bays with transomed single lights. Central modern door with wooden panel above and segmental arched hood on acanthus scroll brackets. Painted inn sign with crown, red lion and wheel between upper windows to left of door. Outshot to rear has moulded ironstone kneeler. Staircase in gabled projection to rear. Room to upper right has panelling with C17-C18 moulded fireplace and panel above with flanking pilasters and cornice.	464790	223111	Post-Medieval	Grade II Listed Building	Medium
1214395	Box Farmhouse	House. C17, extended C18. Coursed rubble stone, timber lintels to openings. Thatched roof, tiled aprons to dormers. Rebuilt chimney stacks to right of centre and left gable, the latter with thin brick and pilasters. 2 storeys and attic, 5½ bays. Leaded casements, single light in half-bay to right, 3-light with pointed tops to leading in upper window of third bay, remainder 2-light, 2 3-light leaded dormers to left. Lobby entry in fourth bay has 6-panelled door with gabled wooden hood on brackets. Lean-to set back to left gable. Rear has outside steps to first floor and C17 3-light window with diamond section oak mullions. Roof has collar trusses and inverted curved wind braces. C18 staircase with turned balusters.	464826	223116	Post-Medieval	Grade II Listed Building	Medium
1214396	The Stores	House and shop. Late C18 house. Coursed rubble stone, tiled roof, flanking brick chimneys. 2 storeys, 3 bays. C19 wooden casements, those to ground floor with timber lintels, 3-light flanking 2-light. Central half-glazed door. Single storey extension set back to left. Late C19-early C20 brick extension to right with shop front to gable	464488	223072	Post-Medieval	Grade II Listed Building	Medium

		end, stores loft above and lean-to to right with board door. Early C20 metal advertisements.					
1214398	Water Pump In Garden Of Old Reading Room Cottage	Water pump. Mid C19. Cast iron. Plain shaft, fluted top and cap, complete with spout and curved handle.	464528	223073	Post-Medieval	Grade II Listed Building	Medium
1214399	Old Reading Room Cottage	House, formerly reading room with flat to left. Circa 1850, incorporating older building. Coursed rubble stone, dressed stone surrounds to doors and windows. Old tile roof, flanking brick chimneys. 2 storeys, 3 bays. Windows have stone mullions and barred lights. Large 3-light window to right, similar smaller window to ground floor left. 2 left-hand bays have 2-light windows to first floor with segmental relieving arches and gables over. Central half-glazed door with gabled timber and tiled hood on moulded stone corbels. Lean-to at rear. Built as part of a scheme for improving the village by Sir Henry Acland, Master of Ewelme.	464542	223078	Post-Medieval	Grade II Listed Building	Medium
1214400	3-4, Acland Terrace	Semi-detached house. Circa 1850. Coursed rubble stone, plinth, rendered first floor band course. Tiled roof, end rafters exposed at gables. Central rectangular chimney stack with rendered rustication to base and white brick above. 2 storeys, 4 symmetrical bays, the outer bays lower and set back. Stone mullion windows, those to first floor with segmental relieving arches and gables over. Centre bays have 3-light windows to ground floor, 2-light above. Outer bays have single lights and half-glazed doors with lean-to hoods bracketted on stone corbels in angle with centre bays. Built for Sir Henry Acland as improved housing for the Ewelme estate.	464582	223096	Post-Medieval	Grade II Listed Building	Medium
1214401	5-6, Acland Terrace	Semi-detached house. Circa 1850. Coursed rubble stone, plinth, rendered first floor band course. Tiled roof, end rafters exposed at gables. Central rectangular chimney stack with stone base and white brick above. 2 storeys, 4 symmetrical bays, the outer bays lower and set back. Stone mullion windows, those to first floor with segmental relieving arches and gables over. Centre bays have 3-light windows to ground floor, 2-light above. Outer bays have single lights and half-glazed doors with lean-to hoods bracketted on stone	464605	223098	Post-Medieval	Grade II Listed Building	Medium

		corbels in angle with centre bays. Built for Sir Henry Acland as improved housing for the Ewelme estate.					
1214413	Number 14, Nearton End	House. C17, altered. Left bay, nearest road, rebuilt C19-C20 in red brick. Remainder has timber frame with diagonal braces and plastered infill to first floor, and ground floor partly rebuilt. Thatched roof, brick chimney between left bays, external stack to right. 1½ storeys, 3 bays. Left bay has barred wooden casements to front and gable; centre bay has C19 3-light wooden casement with ornamental blindcase to ground floor and paired leaded casement in thatch; right bay has blindcase over horizontal sash, board door and 4 C20 single lights. 4-panelled door with board hood between left bays.	480319	226993	Post-Medieval	Grade II Listed Building	Medium
1214417	Moat Farmhouse	House. Late C18, altered. Chequer brick, first floor band courses, off-set brick eaves. Raised old tile roof, brick coping to front gable, 2 brick chimneys to rear, chimney to front gable removed. L-plan. One storey, attic and basement. Front gable has 2 single barred wooden windows to basement, paired barred wooden casement to main floor, and paired leaded casement, half with old glass, to attic. Bay set back to right has single leaded casement. Left side of 2 bays has 3-light barred wooden casement to left, 2 gabled dormers with paired casements, and board door with paired arch motif to left of centre.	480275	226926	Post-Medieval	Grade II Listed Building	Medium
1214441	7-8, Acland Terrace	Semi-detached house. Circa 1850. Coursed rubble stone, plinth, rendered first floor band course. Tiled roof, end rafters exposed at gables. Central rectangular chimney stack with stone base and white brick above. 2 storeys, 4 symmetrical bays, the outer bays lower and set back. Stone mullion windows, those to first floor with segmental relieving arches and gables over. Centre bays have 3-light windows to ground floor, 2-light above. Outer bays have single lights and half-glazed doors with lean-to hoods bracketted on stone corbels in angle with centre bays. Built for Sir Henry Acland as improved housing for the Ewelme estate.	464630	223100	Post-Medieval	Grade II Listed Building	Medium
1214442	Old White Hart	Small house, formerly inn. C17-early C18. Whitewashed rubble stone, thatched roof. External stack to left gable has whitewashed rubble stone base with brick shaft. Another brick stack between	464704	223127	Post-Medieval	Grade II Listed Building	Medium

		right-hand bays. 1½ storeys, 5 bays. Irregular C20 barred wooden casements, those to ground floor bays 2 and 4 with shutters. Only 3 windows to first floor, all in thatch. Ledged door in central bay.					
1214444	Manor House	House. Mid C16 hall, side wings extended and altered C17 and C18. Coursed rubble stone with some stone dressings. Old tile roofs with C17 bargeboards and finials to gables, those to right renewed. Chimney stacks of thin brick with square shafts set diagonally, 4 to main stack between right-hand bays, 2 to left side. Main stack has moulded brick panel at base. Leaded windows. 2 storeys, attics and cellar. E. front has 4 bays, each gabled to front. 2 centre bays of hall are recessed with 2-storey projecting porch to left and canted bay window to right, both flush with outer bays and rendered gables above. Porch and bay window have dressed quoins. Porch has moulded 4-centred arch with flat hoodmould, and jettied timber frame with stone infill to first floor. c16 6-panelled studded door with original hinges and catches. 2- storey bay window has moulded string courses and 6-light stone mullion and transom windows. 3-light wooden mullion window to attic. Small cellar window between bays. Outer bays wider with wooden mullion and transom windows, 3-light in left-hand bay, 6-light in right-hand bay, that to first floor renewed. 3-light wooden mullion windows to attics. Right-hand bay has 2 similar staircase windows to left. S. front of left-hand wing remodelled C18: 5 bays of barred sash windows with timber lintels, French doors to left and external stack between right-hand bays. Interior: hall has large stone C16 fireplace with moulded 4-centred arch. Similar smaller fireplace in upper room of right wing. C16 panelling, altered, in same room. Moulded doorcases. C16 staircase with turned balusters, square newel posts and acorn finials in projection to rear of hall. Similar smaller staircase with bell finials in right-hand wing. C18 panelling and stone moulded fireplace in left-hand wing.	464738	223170	Post-Medieval	Grade II* Listed Building	High
1214445	Barn At Manor Farm To West Of Churchyard	Barn. C17-C18. Stone gable walls, coped to east, remainder weatherboarded over timber frame. Steeply pitched old tile roof. 5 bays. Central waggon entry. Queen strut trusses on braced tie beams, inner trusses with one strut missing. Modern lean-to at S.E. corner.	464724	223236	Post-Medieval	Grade II Listed Building	Medium

1214446	Church Of St Mary	Parish Church. C13 cruciform plan. S. aisle added c1300, S. porch C15. N. aisle and vestry added, W. tower rebuilt and remainder restored 1879-80. Rubble stone.	464761	223228	Medieval	Grade II* Listed Building	High
1214447	Churchyard Cross	Remains of cross. C15. Stone. Square base, part of chamfered square shaft with much worn stops.	464758	223212	Medieval	Grade II Listed Building	Medium
1214448	Ware Farmhouse, Walls And Railings To Front	House. C17. Coursed rubble stone, timber lintels to openings. Cart entry to left has timber framed section above with gable to street and brick infill. Rubble stone side wall to far left. Old tile roof. Rebuilt central stack of C17 brick with 2 square shafts set diagonally. Main block has 2 storeys and 2 bays of 3-light leaded casements. Similar casement to timber framed section. Central lobby entry has double panelled doors. Front garden has curving cast iron railings with diaper and fret patterns, and flanking brick walls attached to house.	464509	223034	Post-Medieval	Grade II Listed Building	Medium
1214529	Addington Grange & Addington House & Addington Place & Park House	Formerly Addington House, now 4 flats. Late C17 much altered 1859-60 and C20. Red brick with stone quoins, plinth moulding, first floor band course, cornice and architrave windows with central keyblocks. Hipped slate roofs, brick chimneys with square shafts set diagonally. Two storeys. S. front has three bays with barred sash windows and central panelled door with rectangular fanlight in rendered architrave surround with cornice on scroll brackets over. W. Side has six bays, that to left set back, bays 2 and 3 slightly projecting. Right-hand bays are irregular and have dentilled brick eaves. Six panelled door with rectangular fanlight and flat cornice hood on elaborately carved scroll brackets in fourth bay has flanking tall narrow casements. Additional bay of one storey to right has pierced parapet, band course, similar sash window and C20 glazed door. Garage to far right with attic dormer above. Included for group value.	474245	228577	Post-Medieval	Grade II Listed Building	Medium
1214530	Church Of St Mary	Parish church. C14 tower, arcades and chancel arch. Restored and remainder rebuilt by G.E. Street 1857. Coursed rubble stone, tiled roofs to S. porch and chancel, copper roofs to nave and aisles. W. tower of three stages with offset diagonal buttresses, battlemented parapet and 2-light Perpendicular openings to bell chamber. Perpendicular W. door and 2-light window above. Nave has three	474261	228493	Medieval	Grade II* Listed Building	High

round clerestory windows with C19 tracery. C19 aisles and chancel have decorated windows under labels with carved stops. Aisles are continued to flank tower. Steeply gabled S. porch. Lean-to vestry to N. of chancel. Interior: W. tower has tall 2-centred double chamfered arches to nave and aisles. Nave of three bays has arcades of two centred chamfered arches continuous with piers. Similar double chamfered chancel arch with moulded caps and bases to semi-octagonal shafts. Chancel has pillar piscina of re-used C12 shaft and capital. Early C17 Flemish glass panels set in windows, C19 glass in E. window. Other fittings C19. Marble wall monuments : plaque to Sir John Busby 1705 with bust above and surround of military trophies; monument to Thomas Busby 1753 by M. Rysbrack with cherub, broken column and obelisk behind; Anne Busby c.1800 by H. Hopper of London with weeping woman and urn; other plaques to Busby family.

1214586	The Old Rectory	House. C18, extended and re-faced late C18-early C19. Brick. Two span roof, tiled to front, slate to rear. Two storeys. Front refaced: 7 bays of barred sash windows with gauged brick heads. Centre has two storey canted wooden bay with architrave surround to sashes. Six panelled door in moulded wooden surround to left of centre has modern hood on brackets. Additional bay to left projects. Single storey C20 extension to right has slate roof. Rear is irregular and of several builds. Right hand bay gabled, of chequer brick with triple sash to first floor and five sided C20 bay window to ground floor. Remaining bays have stone coped parapet and barred sash windows with gauged brick heads: two to left are late C18 - early C19 four to centre mid-C18 with long staircase window to upper right and canted bay window with C20 casements to centre.	473479	230102	Post-Medieval	Grade II Listed Building	Medium
1214587	Adstock Cottage	Cottage. C17. Timber framed, mostly roughcast rendered and whitewashed, some brick to gable end. Half-hipped thatch roof, central stack with some thin brick at base. One-and-a-half storeys, two bays. Right hand bay has paired leaded casements to ground floor and in thatch, and fire insurance plaque. Similar windows in gable end. Left hand bay obscured by later extension at right-angles. Extension has tiled roof, two similar casements with cambered heads and entry to right. Right hand ground floor room of cottage has stop-chamfered spine beam and joists.	473734	230191	Post-Medieval	Grade II Listed Building	Medium

1214591	Forge House	House. C17, of 2 builds. 2 left-hand bays are timber framed with whitewashed brick infill. Right-hand section is of coursed rubble stone with timber lintels to openings. Thatched roof. Large stack of thin brick with pilasters to left of stone section, lobby entry below. 1½ storeys, 3 bays, irregular 2 and 3-light barred wooden casements, those to upper floor in thatch. C20 door with small staircase window to upper left.	464671	223071	Post-Medieval	Grade II Listed Building	Medium
1214592	Water Pump Adjacent To North East Of Forge House	Water pump. Mid C19. Cast iron. Fluted shaft with curved handle and spout marked 'Warners (of) London'.	464681	223076	Post-Medieval	Grade II Listed Building	Medium
1214593	Middle Farmhouse	House. C17-C18. Slobbered rubble stone, timber lintels to openings. Thatched roof, brick stacks to gables and centre, that to S.W. gable with thin bricks. 1½ storeys, 4 bays. Centre bays of E. front have paired wooden casements, those to first floor in thatch with tiled apron to right. C20 rendered projections to outer bays, with flat roof to left, lean-to tiled roof to right. Entry in porch in angle to left, corrugated lean-to hood over door in angle to right. Lean-to to rear.	464686	223069	Post-Medieval	Grade II Listed Building	Medium
1214594	Rose Cottage	House. Dated WG 1841 in blue headers. Red brick with diaper patterning in blue headers, rubble stone to rear. Dentilled eaves, slate roof, brick stack to right. 2 storeys, 3 bays. Ground floor outer bays have C20 canted oriel windows, first floor has C19 paired barred casements. Central board door with flat wooden hood on minimal brackets and small stone tablet with geometric ornament above. Single storey brick extensions to right with concrete tile roofs and similar windows. Included for group value.	464708	223075	Post-Medieval	Grade II Listed Building	Medium
1214595	La Chaumiere	Small house. Original single-celled C18 cottage with extension to N. at slight angle, extended again to E. C19 and C20. 2 older bays are of whitewashed cob on brick plinth with whitewashed rubble stone to N. gable. Thatched roof, half-hipped to S., brick stack to N. gable. 1½ storeys. W. side has 4 C20 barred wooden casements to ground floor, one in blocked doorway; paired leaded casement under thatch eyebrow to left. Whitewashed brick extensions to E: C19 bay to N.	464754	223361	Post-Medieval	Grade II Listed Building	Medium

		has timber framed upper section and slate roof; C20 bay to S. has flat roof and entry.					
1214596	The Cottage	Cottage. C17-early C18. Single cell timber framed cottage, altered and extended with whitewashed cob. Thatched roof, hipped to left. External chimney to right gable has whitewashed rubble stone base and brick above; another brick stack to centre. 1½ storeys, 3 small bays. 2 right-hand bays have paired barred wooden casements, that to right under thatch eyebrow C19, remainder C20. Timber lintels. Central ledged board door. C20 extension projects from left-hand bay. Tiled lean-to of cob to rear has 2 very small windows.	464756	223351	Post-Medieval	Grade II Listed Building	Medium
1214597	The Bungalow	Small house. C17-C18. Whitewashed brick and roughcast. Timber lintels to openings. Thatched roof, brick stacks to original left gable and right of centre. 1½ storeys, 3 bays. Paired barred wooden casements, those to first floor in thatch, with single light to right. Half-glazed door with wooden frame between left-hand bays. 2-storey C20 extension to left has weatherboarded first floor and tiled roof.	464766	223327	Post-Medieval	Grade II Listed Building	Medium
1214618	Little Marsh Cottage & Rectory Cottage	Pair of cottages. Early C18. Rubble stone. Rectory cottage is whitewashed to road. Thatched roof, brick stacks to gables and centre, the latter with thin brick. Each cottage has 1½ storeys, 2 bays, upper windows in thatch, ground floor windows with cambered stone arches. Little Marsh Cottage to left has paired casements, wooden to lower right, remainder metal. Rear has entry, barred wooden casements to ground floor and 2 leaded dormers. Single storey extension with tiled roof to gable. Rectory Cottage to right has paired barred casements, that to lower right with flat head. Entry to rear. C20 extension with flat roof projects from left half, another extension of whitewashed brick with slate roof to right gable.	465227	223324	Post-Medieval	Grade II Listed Building	Medium
1214619	The Homestead	House. C17, altered and extended. Coursed rubble stone, part rebuilt in brick. Concrete tile roof. Large stack with thin bricks and lobby entry to centre of main section to east, L-plan. 1½ storeys. S. front has 4 bays: 2 bays of stone to east have C19 barred wooden casements with cambered stone arches, 2-light to ground floor left and upper right, 3-light to lower right. Upper left-hand casement	465248	223313	Post-Medieval	Grade II Listed Building	Medium

		leaded with similar head. Central board door in gabled concrete block porch. 2 bays of brick to left have altered casements and entry to left. North side has similar windows, some leaded, and 2-storey wing projecting to right with brick stack to centre. interior of east section has moulded spine beam.					
1214620	Swan Farmhouse	House. Dated 1720 on plaque over door. Coursed rubble stone, first floor band course, stone voussoir heads to windows. Old tile roof, brick stacks to gables and left of centre. 2 storeys, 5 irregular bays. Paired barred wooden casements in bays 1, 3 and 5. Bay 4 has small barred window to ground floor and blocked window above. Bay 2 has modern door with flat wooden hood on brackets, date plaque and round voussoired panel, originally sundial, above. Single storey extension to left has 2 bays and small central stack.	465058	223131	Post-Medieval	Grade II Listed Building	Medium
1214626	Adstock House	House. Mid C18 central block, extended to S.E. 1778 (dated brick), to front and N.E. C19, C20 alterations. Centre block of plum coloured brick with red brick dressings, tiled roof, moulded brick eaves. Two storeys and attic, two bays. Paired C19 wooden casements to first floor dormers. Dormers are tile-hung and gabled with bargeboards. C19 lean-to to ground floor with bands of white brick and slate roof, gabled over central door and flanking windows with larger central gable. Extended to right in similar style. Taller late C19 block to left has two bays of small sash windows. Rear of central block has first floor band course paired C19 casements to first floor, leaded casements to central round first floor window and dormers. Ground floor has central door with late C19 canted bay window to left and early C20 square projection to right.	473683	230163	Post-Medieval	Grade II Listed Building	Medium
1214635	Hintons	House. C18. Whitewashed brick with timber framing to gables and first floor under thatch eyebrows. Half-hipped thatch roof, brick stack to left of centre. One-and-a-half storeys, three bays, each slightly advanced from that to left. Paired barred casements with timber lintels to ground floor, paired leaded casements to first floor. Entry with modern gabled porch to left of central bay with single casement under cambered head to right. Two storey wing at right angles to rear has barred C20 casements.	473627	230305	Post-Medieval	Grade II Listed Building	Medium

1214636	The White House	House. Late C18-early C19 re-casing of earlier house. Whitewashed brick, tiled roof, central brick stack. First floor band course, deep wooden eaves cornice with brackets. Two storeys and attic, five bays. C19, 3-light wooden casements with cambered heads in left hand bays and gauged flat heads to right. Louvred shutters to first floor. Centre bay has small modern casement to first floor and square projection below with hipped tiled roof, leaded casement to left and panelled door to right. Much extended to rear C20.	473614	230262	Post-Medieval	Grade II Listed Building	Medium
1214637	The Old Thatched Inn	Public House. C17-C18. Colourwashed roughcast, brick end wall to left with timber framed gable. Thatched roof, half-hipped to left. Brick stack to right of centre with lobby entry. One-and-a-half storeys, three irregular bays with leaded casements: three-light with cambered head to ground floor left, canted bay window to centre, two paired C20 casements to right, paired casements under thatch eyebrows in right-hand bays. Door has flat wooden hood on brackets. Modern extensions to rear and with flat roof to right.	473604	230198	Post-Medieval	Grade II Listed Building	Medium
1214638	3 And 5, Main Street	Pair of cottages, originally C17 timber framed house, extended to left and re-faced with brick late C19. Frame exposed to right gable and rear. Tiled roof. Brick stacks to centre and between left-hand bays. One storey and attic, four bays, each with gabled dormer. Both floors have triple sashes with cambered brick heads. No. 3 has board door to right of centre with small sash to upper left. No. 5 has central half-glazed door with flat wooden hood on brackets. Projection to rear of right hand bay also timber framed.	473653	230287	Post-Medieval	Grade II Listed Building	Medium
1214646	Wilma Cottage	Cottage. C18, altered. Coursed rubble stone, timber frame and brick to first floor under thatch eyebrows. Thatched roof with slight hip to street gable and brick stack to far gable. 1½ storeys, 2 bays. S. side has paired casements, 3 to ground floor with altered cambered stone heads, 2 to first floor. Entry in C20 extension with tiled roof at far end N. side has small central window and leaded window to upper left.	464599	222829	Post-Medieval	Grade II Listed Building	Medium
1214675	The Olde Power House	House. C18. Timber frame of slight scantling with diagonal braces and whitewashed brick infill. Thatch roof, half-hipped to left, brick stacks to gables and right of centre. One-and-a-half storeys. Four	473640	230262	Post-Medieval	Grade II Listed Building	Medium

		irregular bays, right-hand bay projecting and gabled to street to form L-plan with small square projection in angle. Irregular wooden casements, leaded in second bay from left with upper window under thatch eyebrow. Board door in left-hand bay.					
1214676	Fig Tree Cottage	House. Circa 1600. Timber framed with curved braces and colourwashed brick infill. Concrete tiles to roof of rear wing with bargeboards to gables, corrugated asbestos to roof of front wing. Chimney stack at junction between wings has projecting colourwashed rubble stone base with brick above, another brick stack to right-hand rear gable. L-plan. Rear wing : two storeys and attic, two bays, that to right with casements and C19 paired casement in attic gable. Front wing: two storeys, two bays; bay to street has lower eaves line and half-hipped roof. Irregular C20 barred casements, C19 paired casement to upper left, sun fire insurance plaque to street gable.	473636	230222	Post-Medieval	Grade II Listed Building	Medium
1214677	The Mill House	House. Mid C18. Red brick with blue headers, first floor band course, moulded brick eaves. Old tile roof, brick coped gables and moulded kneelers, end stacks. Two storeys, three bays. C19 paired wooden casements, with cambered gauged heads to ground floor. Central modern door with similar head and modern wooden hood. Single storey extension to right with board at eaves.	473595	230037	Post-Medieval	Grade II Listed Building	Medium
1214706	North Lodges	Pair of lodges to Claydon Park. Circa 1760, partly restored. Ashlar. Tiled roofs hidden by parapets. Each lodge is a square plan block of one storey and one bay with shallow gables to N. and S. S. walls have round headed sash windows with intersecting glazing bars. Walls facing drive have half-glazed doors. Walls to N. are ramped down to drive.	471811	225890	Post-Medieval	Grade II Listed Building	Medium
1214707/M BC5968	Stables For Claydon House	Stable ranges forming 3 sides of a courtyard. Date of 1754 in vitreous brick headers to centre. Each range is of chequer-brick with plinth, upper band course and stone coped parapet ramped up to central pedimented pavilion. N. and S. pavilions are of vitreous brick with red brick surrounds and gauged heads to openings and stone plinth, quoins, springer and keyblocks. E. pavilion is of red brick with similar stone dressings. Slate roofs. Pavilions are of 2 storeys with central archway and flanking sash windows with segmental heads,	472029	225339	Post-Medieval	Grade II Listed Building	Medium

		those to first floor smaller. Pediments have roundels to centre, each with 4 keyblocks. E. pavilion has smaller side archways instead of lower windows and clock turret with slender Doric columns and leaded dome. Pavilions have 5 single-storey bays to each side with sash windows or doors with rectangular barred fanlights, 2-storey block attached to SE corner of stables has cart entry with half-timbered gabled roof attached to S.					
1214711	First And Second Cottages	Pair of cottages. C17 and later. First cottage: timber framed with whitewashed brick infill, part rendered; thatch roof, stack to left gable; one-and-a-half storeys, two bays; paired C19 wooden casements, upper storey under thatch eyebrows; central board door; 19 brick extension to left, with slate roof. Second cottage: late C18-early C19; brick, thatched roof to left, tiled to right, brick stacks to centre and right-hand gable; two storeys, two bays; paired C20 barred casements, 3-light to upper right; board door to left in timber gabled porch; single storey brick extension to right with tiled roof.	473630	230110	Post-Medieval	Grade II Listed Building	Medium
1214760/M BC1214760	The Fernery	Small garden pavilion. Mid C18. Ironstone ashlar to W. and S. walls in Gothick style with cornice of pointed arches, pierced quatrefoil parapet with ball finials to corners, and corner piers with trefoil-headed panels. W. side has door and flanking windows all with arched heads in moulded surrounds with ogee drip moulds and finials. Sash windows with Y-traceried glazing bars. Half-glazed door with trefoil-headed panels and glazed quatrefoil to top. Similar door to S. N. wall brick.	471960	225302	Post-Medieval	Grade II Listed Building	Medium
1214761/M BC5969	Archway And Flanking Walls Attached To South West End Of Stables	Archway and garden walls. Mid C18. Chequer brick, brick band course at springer level, stone coping. Central segmental arch has pediment above with ball finial.	471968	225292	Post-Medieval	Grade II Listed Building	Medium
1214762/M BC7869	Church Of All Saints	Parish Church. Nave of C1300, much restored. W. tower c1500. Chancel 1519. Restored 1871 by G.G. Scott. Late C19 S. porch and vestry. Rubble stone, lead roofs. Perpendicular W. tower of 3 stages with plinth, battlemented parapet, diagonal buttresses and 2-light openings to bell chamber. W. door with 3-light cusped window above. Nave has parapet, 2 bays of small cusped lights to W., 2	471898	225296	Medieval	Grade I Listed Building	Medium

bays of windows with Y-tracery to E. Central 2-centred arched doorway to each side, that to N. moulded, that to S. with gabled timber porch. Chancel has parapet and 2 bays of 3-light windows. N. doorway in moulded surround dated 1519, 5-light Perpendicular window to E. Interior: Hollow-chamfered tower arch on semi-octagonal responds with moulded caps. Double chamfered chancel arch. Moulded Perpendicular arch over entry to vestry has 3 carved angel bosses. Fittings: early C16 screen with open traceried panels and moulded frame, early C17 pulpit has panels with perspective arches; C19-C20 marble font and carved stone reredos. Brasses on N. wall of chancel: to Alexander Anne, priest, 1526; to Isabella Giffard 1523; large figures of Roger and Mary Giffard with 20 children, 1542. Monuments: alabaster tomb chest with recumbent effigy of Margaret Giffard 1539; large wall monument on S. wall of chancel to Edmund, Margaret, Ralph and Mary Verney 1653 by Edward Marshall with 4 white marble busts in classical surround of coloured marbles and gilt; wall tablets to Elizabeth Verney 1686, Henry Verney 1671 with Ionic columns and segmental pediment, Urian Verney 1608, Mary Verney 1694. Un-named, monument with coat of arms flanked by wooden Tuscan columns.

1214763/M BC5971	Bridge At South End Of Lake	Bridge. Mid C18. Stone to N. facing Claydon House, brick parapet, English bond brickwork to S. Single round arch. Square section ashlar piers to ends of parapet. Probably erected or incorporated into park landscape designed by James Sanderson 1763-76 for Ralph, 2nd Earl Verney.	471746	224992	Post- Medieval	Grade II Listed Building	Medium
1214764	Townsend Cottages	Row of cottages. C18, altered and extended late C19. Older block of 3 bays to right is of chequer brick with half-hipped tiled roof and 2 intermediate brick stacks, each with 4 square shafts set diagonally. 2 storeys and attic. 3-light barred wooden casements with cut brick heads to ground floor, 3-light leaded casements to first floor. 3 doors, one blocked, with similar heads. Late C19 cottage to left is of red and white brick with blue header patterns to gable. Tiled roof. 1½ storeys, one bay, gabled to road. Barred wooden casements with brick Tudor hoodmoulds. Single storey bay set back to left.	472119	225857	Post- Medieval	Grade II Listed Building	Medium

1214765	Poundon House And Walls Of Terrace And Of Forecourt	Mansion. Dated 1908 on foundation stone. Built by local firm Lewis Penn for J.P.H. Heywood-Lonsdale Esq. Dressed ironstone with plinth, moulded band course, chamfered quoins and wooden eaves cornice on brackets. Hipped stone slate roof. Dressed stone chimneys with square shafts set diagonally. H-plan. In the style of c 1700. 2 storeys and attic. S.E. front has 9 bays, 2 outer bays on each side projecting. Barred sash windows in architrave surrounds, those to ground floor with keyblocks. Slightly projecting centre bay has pediment with wooden mouldings, and glazed and barred double doors in architrave surround with entablature and swan-neck pediment. 2 attic dormers have 5-light leaded casements with small central pediments. U-plan service wing to right has basement, main storey with cross windows, and hipped-dormers with paired leaded casements. Garden walls attached to front corners of house curve round to relieving wall of terrace. These walls are of ironstone with rusticated gate piers. Rear of house facing road, is irregular with Serlian window to left of centre, groups of 3 sash windows to right, and open pediment to centre bay. Door has flanking Doric pilasters, triglyph entablature and segmental pediment. Attached low ironstone walls to forecourt.	464523	225159	Modern	Grade II Listed Building	Medium
1214766	Garden Walls To North East Of Poundon House	Garden walls. Circa 1910. Part of garden design by T.H. Mowson. High brick walls, part with tiled coping, surrounding large rectangular garden. N.E. wall has central alcove lined with ironstone. Included for group value.	464571	225185	Modern	Grade II Listed Building	Medium
1214799	Garden Walls, Gate Piers And Gates To North West Of Poundon House	Garden wall with piers flanking side entrance at N.E. end, and central section with piers and gates to main drive. Circa 1910. Walls are of coursed ironstone rubble with flat coping stones. Dressed ironstone piers with moulded cornices and pyramidal caps, those to centre with segmental pilasters, moulded bases and entablatures. Wrought iron gates with scrolled crest. Included for group value.	464451	225242	Modern	Grade II Listed Building	Medium
1214802	Cowley Farmhouse	House. Late C17 altered. Timber frame now covered with planking in rear gable wall, remainder brick with dentilled eaves. Old tile roof, central chimney stack of thin brick has 2 rectangular shafts with pilasters to sides and off-set head. T-plan. 2 storeys and attic. S.E. front has gabled cross wing projecting to left. Gable wall has some stone quoins to base at right, C19 3-light casement with cambered	466399	228159	Post-Medieval	Grade II Listed Building	Medium

		brick head to first floor, matching C20 casement with flat head to ground floor, and 2-light casement to attic with Phoenix fire insurance plaque below. Centre has lean-to in line with chimney. Right-hand bay has C19 3-light casements, the upper partly in the roof, and half-glazed door in wire porch to right. Lean-to garage to right. S.W. front has similar casements and 6-panelled door with rectangular barred fanlight and flat wooden hood on cut brackets. Some leaded casements to rear.					
1214817	Beech Cottage	House, now divided in 2. Late C16-early C17. Timber frame covered with colourwashed render and roughcast, old tile roof, 2 external chimney stacks with rubble stone bases and brick above. T-plan. 2 storeys and attic. W. front has 2 bays of N. wing to left and projecting gabled cross wing to right. N. wing has C20 3-light wooden casement to lower left, panelled door and single leaded casement to right; jettied first floor has C19 wooden casements, 4-light to left, 3-light to right. Cross wing has C20 metal casements and C20 single storey brick extension to right. Interior: panelling dated 1604 has patterned pilaster and fluted frieze.	466289	228039	Post-Medieval	Grade II Listed Building	Medium
1214845/M BC16858	Shepherd's Furze Farmhouse	Farmhouse. Circa 1770. Estate building for Verney family. E. front facing Claydon House is of dressed stone with plinth and moulded stone eaves. Brick to sides and rear. Old tile roof, flanking brick chimneys. 2 storeys, 3 bays. Outer bays have C20 3-light barred wooden casements, those to ground floor with stone voussoir heads. Centre bay has similar paired casement over C20 panelled door with barred rectangular fanlight. Late C19 extension set back to left is of rat-trap bond brickwork with one storey, 2 bays and C20 casements. Modern extensions to rear.	468710	225656	Post-Medieval	Grade II Listed Building	Medium
1214846/M BC16859	Rosehill Farmhouse	House. Circa 1770. Estate building for Verney family. Rear facing Claydon House, is of dressed stone with plinth and moulded eaves cornice. Remainder brick. Old tile roof, originally 2-span, now hipped. 2 storeys, 3 bays. C19 3-light barred wooden casements to outer bays, those to ground floor with stone voussoir heads. Central bay has paired leaded casement above C20 door. Similar front in brick to west.	469632	225753	Post-Medieval	Grade II Listed Building	Medium

1214847/M BC16860	Outbuildings To West Of Rosehill Farmhouse Forming North And West Sides Of Courtyard	Ranges of barns and stables, now part used as kennels, forming N. and W. sides of a courtyard. Late C18. Brick and weatherboarded, tiled roofs. Each range has central barn, that to N. of 3 bays with central waggon entry, braced tie beams, collars and double purlins. Included for group value.	469612	225776	Post-Medieval	Grade II Listed Building	Medium
1214848/M BC16861	Blackmoorhill Farmhouse	House. Circa 1770, partly rebuilt. Farmhouse for Verney estate. Front facing Claydon House is of dressed stone with plinth and stone voussoirs to all openings. Eaves cornice missing. Remainder brick with dentilled eaves. Tiled roof, flanking brick chimneys. 2 storeys, 3 bays. C20 barred wooden casements, 3-light flanking 2-light. Central C20 6-panel door with barred rectangular fanlight. Extension of one storey and attic to rear.	470352	225678	Post-Medieval	Grade II Listed Building	Medium
1214849/M BC16862	Pond Farmhouse	Farmhouse. C17-C18 L-plan house of rubble stone, extended to E. in chequer brick mid-late C18, and in brick to N. late C18 and C19. Tiled roofs, brick chimneys flanking stone section. 2 storeys and attic. Stone section has N. front of 3 bays, C19 and C20 paired barred wooden casements, 3-light to ground floor right. Central upper window blocked. Later bay to left obscured by single storey extension at right-angles with similar 3-light casements. Rear has similar casements and 4-panel door in angle with flat wooden hood on minimal brackets.	469678	224775	Post-Medieval	Grade II Listed Building	Medium
1214895	Foxgloves	Small house. C17-early C18. Whitewashed roughcast over stone and brick. Thatch roof, half-hipped to right; external brick stack to left gable. One and a half storeys, three bays. Three-light leaded casements, those to first floor in thatch. C20 enclosed porch between right-hand bays has hipped tiled roof, door to left side, and small leaded canted bay window to front. Garage to left. Board dated 1669 found in roof.	470010	226988	Post-Medieval	Grade II Listed Building	Medium
1214896	Vine Cottage	House. C17, altered. Timber frame exposed to rear and E. gable, whitewashed brick infill with weatherboarding to gable. S. front rebuilt in whitewashed brick, W. gable rendered. Thatch roof. External brick stacks to gables, another to centre. 1½ storeys, 4 irregular bays. Ground floor has irregular C20 barred wooden casements; first floor has similar C19 casements, 3 light in left-	469644	227134	Post-Medieval	Grade II Listed Building	Medium

		hand bays, 2-light to right. C20 door in second bay with flanking single lights. Small brick boiler house to E. gable. Lean-to to rear.					
1214899	Rhenolds Close	House. C15-early C16, altered and extended C17. Timber framed with plaster and whitewashed brick infill, some herringbone. 3 older bays to left have 2 cruck trusses, curved windbraces and ridge beam on yoke. C17 right-hand bay is box-framed with tiled rubble stone lean-to to front. Remainder of roof is thatched, with hip to left and small half-hip to right. Large stack with thin brick between right-hand bays, another smaller chimney between left-hand bays. Older section has 1½ storeys, C17 bay has 2 storeys and attic. Irregular leaded casements with diamond panes to ground floor. 3rd bay has original bowed 3-light window. 2 windows to first floor in thatch. Central ledged door. Tiled rubble stone oven projection in angle between 3rd bay and lean-to. Rear has similar casements and 2 doors, one a lobby entry. Sun and Royal Exchange fire insurance plaques on post at S.W. corner.	469917	227375	Medieval	Grade II Listed Building	Medium
1214901	Manor Farmhouse	House. C18 L-plan block, altered, with C19 infill in rear angle and lean-tos to sides. Brick, C18 block has irregular plum-coloured panels with red dressings, plinth, and first floor band course, rendered to front. Stone base. Old tile roof, stack to right-hand gable. 2 storeys and attic, Now 3 bays, originally 5. Barred C19-C20 wooden casements. Outer bays have square bay windows with hipped tiled roofs and 3-light casements above, 2-light casement to centre of first floor. 2 gabled dormers with paired casements. Central 6-panel door with barred rectangular fanlight, flanking pilaster strips and wooden cornice hood on brackets. Lean-to to right with blocked doorway and paired casement above. Brick near front door inscribed "E.? 1717".	470483	226773	Post-Medieval	Grade II Listed Building	Medium
1214937	Church Of St Michael	Parish church. C14 chancel, nave altered C15 and heightened C16-17. Restored 1842 and 1875 by Sir G.G. Scott and J. Oldrid Scott. C19 transepts, N. aisle, S. porch and W. tower. Coursed rubble stone with brick to transepts and E. wall of nave. Tiled roofs coped gables. Tower of 3 stages in Decorated style with broach spire and stair turret to N.E. S. wall of nave has 2 C15 paired cusped lancets with flat hoodmoulds and clerestory of C16-C17 rectangular windows with paired arched lights. N. wall' of nave has C19	470521	226743	Medieval	Grade II* Listed Building	High

clerestory of 2-light windows with ogee tracery, hidden by steeply gabled roof of N. aisle, Similar windows to N. aisle. Transepts have re-used Perpendicular 3-light windows with ogee tracery and carved head label stops to N. and S. S. transept has mid C18 memorial plaques set in W. and S. walls. Chancel has Decorated 2-light windows, 2 to S., one to N, C19 vestry to N. in angle with transept. Small door to S. dated 1631. Decorated E. window of 3 lights has flowing tracery. Interior: C19 N. arcade of nave has 3 bays of chamfered arches on octagonal piers with moulded caps, C19 chancel arch on triple shafts. Aumbry, piscina and sedile in form of window seat, all restored Q19, C19 roofs. All C19 work in Decorated style with naturalistic carved foliage caps. Fittings: C15 octagonal font with C17 cover; C15 pews, restored; C17 pulpit, other fittings C19, Monument to Sir Harry and Lady Eliza Verney with marble profile medallions dated 1839 by Kummel.

1214939	18, Queen Catherine Road	House. C17. Timber frame with large rectangular panels, plastered to front, brick to right gable. One curved brace to upper left- hand corner. Thatched roof. Chimney between right-hand bays has 3 square brick shafts set diagonally. 2 storeys and attic, 4 irregular bays of leaded casements. Lobby entry has C20 porch of rubble stone with hipped thatch roof. Small paired leaded casement to attic in left gable.	470356	226884	Post-Medieval	Grade II Listed Building	Medium
1214973	Water Pump	Water pump. Dated PFV 1865. Cast iron. Fine shaft in form of fluted Tuscan column.	470095	226917	Post-Medieval	Grade II Listed Building	Medium
1214974	Library, Village Hall And Caretaker's Flat	School, now library, built 1656, the gift of Sir Thomas Chaloner. Extended to rear 1856 at expense of Lady Dunsany. School-master's lodging, now caretaker's flat, added to left 1841. Village Hall added to rear right-hand corner 1902, by Parker and Unwin for Edmund Verney. Brick, tiled roofs.	470052	226945	Post-Medieval	Grade II Listed Building	Medium
1214975	Camp Barn	Small barn. C17, restored. Coursed rubble stone, old tile roof, coped gable, moulded kneelers, off-centre brick stack. W. side has 3 wooden mullion and transom windows, the outer ones with leaded lights. E. side has garage and stable doors. Street gable has brass	470362	226840	Post-Medieval	Grade II Listed Building	Medium

plaque recording encampment of Cromwell's army around the barn in March 1644, prior to the attack on Hillesden House.

1214976	The Phoenix	Public house. C17-C18, extended C19. Whitewashed brick with timber framing to first floor of central section. Thatched roof hipped to left. Brick stacks to right gable and left of timber framed section. Barred wooden casements. Central section has 1½ storeys, 2 bays, irregular casements and C20 door in wooden surround to right. Phoenix fire insurance plaque to centre. Left-hand bay has one storey and cellar, 3-light C20 casement and weatherboarded extension to left. Right-hand bay of 2 storeys has 3-light casement to ground floor and paired casement above. C20 single storey extensions of no special interest attached to rear right-hand corner. Small thatched outbuilding with shop window is attached to front at left.	470227	226868	Post-Medieval	Grade II Listed Building	Medium
1214978	Willowvale Farmhouse	House. C17. Timber framed with regular rectangular panels of brick infill. Asymmetrical cruck truss exposed in right-hand gable. Thatch roof, half-hipped to left. Brick stacks to right gable and centre. 1½ storeys, first floor in thatch. 5 bays of 3-light leaded casements. Lobby entry with C20 door to right of centre, round oven projection to rear.	469461	226861	Post-Medieval	Grade II Listed Building	Medium
1214979	Claydon Place	Small cottage. Late C18. Brick minimal timber framing to rear. Thatch roof, brick stack to left. 1½ storeys, one bay. Paired barred metal casements, that to ground floor with cut brick flat head, upper window in thatch. Board door to right with similar head and corrugated metal porch. Another small window to right.	466455	226593	Post-Medieval	Grade II Listed Building	Medium
1215001	41-45, West Street	Row of 3 cottages. C18-early C19. Brick. Thatch roof, half-hipped to left and swept down round upper windows. 2 intermediate brick chimneys. 1½ storeys, each cottage of one bay. Barred wooden casements with cambered heads, 3-light to ground floor, 2-light above. No. 41 has door with open thatched porch. Door to No. 43 has cambered head. No. 45 has C20 lean-to porch extension to right with tiled roof.	469376	226834	Post-Medieval	Grade II Listed Building	Medium

1215007	Cottages To North Of Junction With Mill Lane	Pair of cottages, once 3. C17-C18, altered. Render over timber frame, corrugated iron roof over thatch, brick stacks to left gable and right of centre. 1½ storeys, 3 bays. Left-hand cottage of 2 bays has paired casements to ground floor left and first floor, 3-light casement to lower right, and central C20 door. Right-hand cottage has 3-light casement to ground floor, 2 paired casements to first floor, and C20 battlemented brick extension to right with entry.	466434	226455	Post-Medieval	Grade II Listed Building	Medium
1215009	Church Of St Mary	Parish church. C12 S. doorway. C13 nave arcades. N. aisle and chancel. C14 W. tower, altered C15. C15 S. aisle S. porch and clerestory, altered C16. Restored C19. Coursed rubble stone.	466511	226670	Medieval	Grade I Listed Building	High
1215010	Cross In Churchyard	Remains of cross. Late C14-early C15. Stone. Octagonal shaft on base with cusped niches and very worn figures to corners.	466521	226659	Medieval	Grade II Listed Building	Medium
1215012	Twyford Mill	House, former water mill and house. C18, altered and partly rebuilt C19 and later. Rubble stone to left-hand bay, patched with brick to rear and right gable. Gable indicates original roof-line. Front rebuilt in brick with toothed eaves C19. Old tile roof, half-hipped to right. 2 storeys and attic, 4 bays. Left-hand bay has C19 wooden casements, with timber lintels, 3-light to ground floor, paired to first floor. Second bay has C19 2-storey brick projection with C20 canted bay window to ground floor and 3-light casement with cambered head above. Right-hand bays have skylights and C20 openings with gabled 2-storey canted bay window to right and older 4-pane sash above door to left. Rear has brick extensions, C20 casements and cambered brick arch over mill race.	465620	227041	Post-Medieval	Grade II Listed Building	Medium
1215016	The Old Post Office	Cottage. C17-C18, altered. Rubble stone to left gable, remainder whitewashed brick. Thatched roof. Brick stacks, one external to left gable, the other to right of centre front. One storey and attic, 2 broad bays. 2-light leaded casements with cambered heads to ground floor, 3-light casements in thatch, that to left C19 with leaded outer panes, that to right C20. Both bays have doors to right, that to left-hand bay boarded with timber porch. Small lean-to to left gable.	466535	226464	Post-Medieval	Grade II Listed Building	Medium

1215050	The Haven	Cottage. Mid-late C18. Whitewashed render, thatched roof half-hipped to right, brick stack to left. 2 storeys, 2 bays. Ground floor has C19 3-light wooden casements. First floor has paired C20 metal casements. Central board door in cast iron gabled porch. Lean-to to rear.	466397	226342	Post-Medieval	Grade II Listed Building	Medium
1215190	Brise's Farmhouse	House. Late C16, altered. Timber frame with curved braces and herringbone brick infill, plinth of large squared rubble stone blocks patched with brick. Old tile roof, central chimney of thin brick, later brick chimney to right. 2 storeys and attic, 4 bays. Small 2-light wood mullion windows, now blocked, in third bay and ground floor of right-hand bay. Other fenestration altered: 3-light leaded casements to first floor, with small 4-light to right of third bay over door; ground floor left has 2 paired wooden casements and C19 barred sash window. Paired leaded casement in gabled dormer to right of centre. 6-panelled door in early C19 wooden doorcase with panelled reveals, Doric pilasters, plain frieze and moulded cornice hood. 3-light moulded mullion window to rear. Interior has moulded stone fireplace with 4-centred arch to first floor.	480399	226985	Post-Medieval	Grade II Listed Building	Medium
1215220	1, Smithfield End	Small house. C17, altered. Early C20 brick to ground floor, timber frame with whitewashed brick infill above. Thatch roof, half-hipped to left. Central brick chimney. 1½ storeys, 2 bays. 3-light barred wooden casements, those to first floor in thatch. Flush panel door to right. Small lean-to extensions to left gable and rear.	479874	227457	Post-Medieval	Grade II Listed Building	Medium
1215252	11, Smithfield End	Small house. C17, altered. C19-C20 brick to ground floor, timber-frame with whitewashed brick infill above. C20 tiled roof, central brick chimney, another small brick chimney to left. One storey and attic, 2 bays. Barred wooden casements: 3-light to ground floor, 2-light to attic in gabled eaves-line dormers. Central board door. Weatherboarded outbuilding attached to right has rendered plinth, slate roof, barred window and board door with rectangular fanlight. C20 garage to far right is not of special interest.	479798	227487	Post-Medieval	Grade II Listed Building	Medium
1215264	Barn Range 25 Metres To South Of Dodleyhill Farmhouse	Barn with smaller barn attached to left. Main barn is C18, smaller one slightly later. Timber frame and weatherboard, corrugated asbestos roofs. Main barn of 3 bays has central waggon entry and queen strut trusses. Smaller barn also of 3 bays with 3 board doors	479798	228306	Post-Medieval	Grade II Listed Building	Medium

and 2 slat windows. Included for group value, C20 range attached to right is not of special interest.

1215266	Swanbourne House School	School, formerly mansion with attached service wing. Dated 1865 on rainwater heads. By William Burn for Fremantle family. White brick with stone dressings, slate roofs and white brick chimneys with moulded stone caps. Classical in style with quoins, moulded plinth with stone panels below ground floor windows, second floor sill course, moulded cornice and balustraded parapet. 3 storeys, N. front of 5 bays, the outer bays slightly projecting, Sash windows, those to ground floor without glazing bars and in architrave surrounds with plain friezes and moulded cornices above. Upper windows have shouldered architraves. Centre has projecting single storey porch with balustraded parapet, similar sashes to sides, and double panelled doors in architrave surround with flanking Doric columns and entablature. Right side of 3 bays has canted bay windows to ground floor of outer bays. Rear has 7 bays, the outer pair of bays on each side projecting slightly with ground floor windows set back in segmental relieving arches. Service block to east has plain parapet, cornice, first floor band course, plinth and plain window surrounds. 2 storeys, 9 bays. 4 left bays project. 2 bays to left have barred windows to ground floor, remainder have sashes. 4-panelled door in right-hand bay has porch with pair of arches on Doric piers.	479920	227062	Post-Medieval	Grade II Listed Building	Medium
1215268	Balustrade To Forecourt Of Swanbourne House School	Balustrade. Circa 1865. Stone balusters with moulded plinth and cornice. Curved sections to corners of forecourt. E. and W. sides have entrances flanked by square stone piers with panelled sides and moulded plinths and cornices. Piers to E. side have ball finials. Similar piers, without finials, at angles. Included for group value.	479914	227095	Post-Medieval	Grade II Listed Building	Medium
1215272	The Manor House	Home for the elderly. C16-C17, much restored early C20. New doorway dated 1927. Dressed rubble stone with restored ashlar plinth and first floor string course. Old tile roof, stone coped gables and kneelers. Small brick chimney with moulded stone cap behind gable of second bay. 2 storeys, basement, attic, E. front of 5 bays. Rebuilt 3-light stone mullion windows, those to ground floor with transoms, all with leaded lights. Second bay has gable with attic window. Fourth bay has 3-storey gabled projection, formerly porch,	480050	227240	Post-Medieval	Grade II Listed Building	Medium

		with C20 2-light wooden casement in blocked doorway with restored and rendered 4-centred head. Door between bays 2 and 3 has similar head. Third bay has 2-light basement window. S. front is double gabled, the left range being a C19 extension with leaded cross casements. Interior has fragments of timber framing, probably not in situ, and 2 C17 panelled doors. One stone fireplace has moulded 4-centred arch and later surround with mantel-shelf on reeded pilasters.					
1215274	Home Farmhouse	Also Known As: GRANGE HILL FARMHOUSE House. C16-C17 T-plan house, extended 11/2 bays to west later C17, altered C19. Timber frame with brick infill is exposed to rear and part of west gable of main block. Refronted in brick C19. Old tile roofs. 2 chimney stacks of thin brick with moulded caps, that to centre of cross wing with flat and V pilasters, that to east of extension with 4 grouped square shafts. 2 storeys and attic. Left bay to front is gabled and projecting and has 4-pane sash windows with segmental heads and Tudor hoodmoulds. Lean-to to left. Second bay has C19 - C20 lean-to to front with 4-pane sash to first floor and porch projection to right. C17 block has 3-light leaded casements to left, that to ground floor with similar hoodmould and single leaded casement to upper right. C20 barred window to right in blocked doorway with dentilled hood. Irregular casements and sashes to rear. Interior has moulded stone fireplace with 4-centred arch to first floor. Formerly known as Grange Hill Farmhouse.	479934	227388	Post-Medieval	Grade II Listed Building	Medium
1215276	16 And 18, Winslow Road	Pair of small houses, C17, altered C18 and C19. Timber frame with curved braces and brick infill to rear, front refaced in brick, red and vitreous brick to left bay, remainder with C19 red and white brick. Thatched roof. 3 brick chimneys, C18 to left, part C17 to centre, C19 to right. 2 storeys, 4 bays. Upper left bay has 3-light leaded casement partly in thatch, other windows are 2 or 3-light barred wooden casements, those to ground floor with segmental or cambered heads, those to first floor with timber lintels. Flush panelled door between left bays, board door to right of centre.	479944	227432	Post-Medieval	Grade II Listed Building	Medium
1215344	13 And 15, Smithfield End	Two small houses. C17, extended C19. No.15 has colourwashed render, probably over timber frame, with lower part of left gable rebuilt in brick. Half-hipped thatch roof, central chimney stack of thin	479822	227497	Post-Medieval	Grade II Listed Building	Medium

brick. One and a half storeys, two bays. Three-light leaded windows, those to first floor in thatch. Central lobby entry with C20 half-glazed door. Early C19 extension to rear, forming T-plan, is of brick with thatched roof and brick chimneys to centre and far gable, One and half storeys, two bays. Three-light barred wooden casements, those to ground floor with segmental heads, those to first floor in thatch.

1215440	6, Smithfield End	Small house. C17, altered C19. Upper gable ends are timber framed with plastered infill and whitewashed brick below. S. front rebuilt in brick. Half-hipped thatch roof, central brick chimney. 1½ storeys, 2 bays. Paired barred wooden casements, those to ground floor with segmental heads, one to first floor left in thatch. Paired leaded casement in thatch over central lobby entry with board door in late C19 gabled porch. Outshot to rear.	479898	227536	Post-Medieval	Grade II Listed Building	Medium
1215679	17, Winslow Road	House. C17, much altered and extended C19. Rear bay has some timber framing, remainder brick, the front with red and white chequer patterning and dentilled eaves. C17 bay has steeply pitched asbestos slate roof and large chimney stack of thin brick at junction with front range. Front has hipped slate roof and brick chimney to right. Rear bay obscured by lean-to extensions. Front is of 2 storeys and 2 bays. 5-pane sash windows with cut brick voussoir heads. Centre has blind panel with similar head over 5-panelled door with blind semi-circular fanlight in brick arch.	479868	227374	Post-Medieval	Grade II Listed Building	Medium
1215705	28, Winslow Road	House and shop. C17-C18, extended C19, 3 bays to right have timber frame of slight scantling with whitewashed brick infill, C20 shingled roof and brick chimney to right. 2 storeys. C20 barred wooden casement to ground floor right, other windows are 2- or 3-light leaded casements. Board doors to left and between right-hand bays. C19 extension to left, now shop, is of red and white chequer brick with slate roof and central brick chimney. 2 storeys, 2 bays, that to left slightly projecting. C20 3-light leaded casement and upper door to first floor, 2 other doors. Originally a bakery. Further C19 extension, now garages, set back to far left.	479908	227435	Post-Medieval	Grade II Listed Building	Medium

1215708	Abovemead Farmhouse	House. Mid-late C18. Chequer brick with moulded brick plinth and eaves. Old tile roof, half-hipped to right. Brick chimneys to left gable and between right-hand bays. 2 storeys and attic, 4 bays, that to right widely spaced. 3 left-hand bays have sash windows, those to ground floor with segmental heads. Right bay has paired barred wooden casement with similar head to ground floor and blocked window above. 2 gabled dormers with paired barred wooden casements. Half-glazed door in second bay has gabled weatherboarded porch. Parallel range to rear is early C19.	478876	228084	Post-Medieval	Grade II Listed Building	Medium
1215711	Range Of Three Barns To West Of Abovemead Farmhouse	Range of 3 barns. Main barn is C18 with weatherboarding on timber frame, rubble stone plinth, and corrugated iron roof. 6½ bays. N.W. side has aisle and cart entries to right and in second full bay, the latter gabled. Aisle has skylights. Braced tie beams, raking and curved queen struts, diagonally braced single purlins. Smaller 3-bay barn attached to S., 2-bay C19 barn of brick with half-hipped tiled roof attached at right angles to N.	478845	228083	Post-Medieval	Grade II Listed Building	Medium
1227953	2, Bell Walk	Cottage with later range to rear left. Cottage: C18, garishly painted brick, timber frame with brick infill to rear, creosoted tiled roof and central chimney stack. One storey and attic, 2 bays. 2-light barred casements, those to ground floor with segmental heads, those to first floor in gabled dormers. Entry in left gable has gipsy-style painted wooden porch. 2-storey bay attached at angle to left is timber framed with painted brick infill. Garage doors to ground floor hayloft entry above. C19 range extending to N. is of colourwashed brick with dentilled eaves and tiled roofs. 2 storeys, 4 bays. 3-light windows, barred wooden casements with segmental heads to ground floor, similar window with flat head to first floor left, remainder leaded.	476957	227521	Post-Medieval	Grade II Listed Building	Medium
1227954	Keach's Meeting House And Graveyard Walls	Baptist chapel. C17, said to be 1625 but probably contemporary with porch dated 1695, altered and re-fitted early C19. Brick, irregularly bonded. Left gable has brick plinth and band course at eaves level. Old tile roof, 2 bays. N. front has small leaded windows with moulded jambs and wooden shutters. Central gabled porch is timber framed with brick infill and original twisted wooden balusters to open side sections, wooden entablature to front is much restored. E. gable has C20 2-light window in blocked doorway and single	476952	227483	Post-Medieval	Grade II* Listed Building	High

		barred window above. S. front has C20 leaded casements with segmental heads. 2 single lights high in W. wall inserted 1824. Humble interior has arched braces to central principal rafters, and wind braces to roof. Fittings: C17 communion table with turned baluster legs; c.1800 box pews and central pulpit at W. end; plain benches with single back rails, probably of same date; narrow gallery of 1827 along E. wall with open front and narrow staircase to N.; wooden hat pegs. Early C18 tomb slabs in floor. Small graveyard to front has brick wall with segmental arch to gateway on E. side. Chapel associated with Benjamin Keach, one of the first people to introduce regular hymn singing in services, and pastor at Winslow 1658-68.					
1227955	Farthings	Cottage. C17, altered. Timber frame with brick infill exposed in right-hand gable, C19 brick to front. Slate roof shared with No 6. 2 storeys, one bay. Ground floor has 2 C20 paired barred wooden casements with segmental heads. First floor has C19 3-light wooden casement. Ledged board door to left with segmental head. Extended to rear with timber studding, brick and altered roof pitch.	476861	227629	Post-Medieval	Grade II Listed Building	Medium
1227956	The Ruin	Cottage. C17. Timber frame to first floor and left gable, whitewashed plaster infill, render to ground floor. Slate roof, brick stack to left. One storey and attic, 2 bays. C20 paired barred wooden casements to ground floor, similar casement in dormer..C20 door to left.	476857	227627	Post-Medieval	Grade II Listed Building	Medium
1227957	The Old Homestead	House, originally a pair of houses. C17, the left-hand half refronted and dated GB 1726 in ornate plaque over door. No. 10 to right is timber framed with wavy braces and whitewashed infill, plaster to ground floor, brick above. Slate roof to front, tiled to rear. 2 storeys and attic. 2 bays. Canted bay window with sashes and cornice top to ground floor left-hand bay, remaining windows are 3-light leaded casements. 6-panelled ledged door to left. No. 12 is whitewashed brick with band course and moulded brick eaves. Old tile roof, brick coped gable and C19 brick chimney to left, C18 brick chimney stack to right. 2 storeys and attic, 2 bays. Irregular ground floor has single and 3-light leaded casements to left and 3 sash windows to right, all large windows with segmental heads. First floor has 2 3-light leaded casements. Attic has 2 gabled dormers with barred wooden	476834	227618	Post-Medieval	Grade II Listed Building	Medium

windows, that to right a horizontal sliding sash. Ledged board door to right of centre.

1227958	Churchwalk House	House, once 3 cottages. C18. Gable wall to path of whitewashed brick with band courses, remainder timber framed with whitewashed brick infill. Old tile roof, brick stack between right-hand bays. 2 storeys, 4 bays. C20 3-light barred wooden casements, lower right-hand bay blank. Second bay has C20 door and single casement in open lean-to porch, and paired C20 casement to first floor. Gable wall to path has altered openings with segmental heads, now with single C20 casement to first floor.	476894	227607	Post-Medieval	Grade II Listed Building	Medium
1227959	Lime Cottage	Small house. Early C19. Red brick, partly chequered, dentilled brick eaves, slate roof. 2 storeys. One bay to street has barred bow window with moulded surround to ground floor, and 4-pane sash with segmental head to first floor. Half-glazed door to left. Side to Church Walk has 2 bays of similar sashes and central 6-panel door with wooden hood on cut brackets, Later C19 extension to left has one taller bay with similar sashes.	476971	227680	Post-Medieval	Grade II Listed Building	Medium
1227960	The Masters House Of The Former Winslow Hospital	Master's house of former hospital, originally workhouse. 1835, by Sir G. Gilbert Scott. Red brick rendered band courses at impost level of ground floor openings and cill of first floor. Off-set brick eaves, hipped slate roof, brick stacks. 3 storeys. S. front has 5 bays, 3 to centre forming canted projection. Barred sash windows with gauged brick heads to ground and first floors. Ground floor windows have semi-circular arched tops with radiating glazing bars and are set in slightly recessed arches of gauged brick. Similar arch over central double doors with radiating fanlight Second floor has C20 paired barred metal casements.	476913	228089	Post-Medieval	Grade II Listed Building	Medium
1227961	Goblin Market	Shop. Right side wall shares C17 timber truss with Bel-Air Laundrette, re-fronted early C19. Brick, parapet with toothed brick ornament. Concealed roof. 2 storeys, one bay. C19 shop front, triple-hung sash window with gauged brick head to first floor. Included for group value.	476998	227580	Post-Medieval	Grade II Listed Building	Medium

1227962	Newmans Delicatessen	Shop with house above. C17 timber frame partly exposed to rear and with one beam and brace to front. Refronted late C18. Colourwashed brick with partial band courses at first and second floor levels. Hipped roof, slate to front pitch, remainder tiled. Brick stack to right. 3 storeys, one bay. Shop front with door to left. Upper floors have barred sash windows with cambered heads. Passage to left.	476998	227604	Post-Medieval	Grade II Listed Building	Medium
1227963	National Westminster Bank	Bank with house above. Early C19, altered. Concrete arcade to ground floor, red brick above, boarded eaves, slate roof. 3 storeys, 2 bays. Ground floor has 5 arches, 2 to left with doors, remainder partially glazed. First floor left-hand bay has canted oriel with barred sashes and hipped slate roof. Right-hand bay and second floor have 4-pane sash windows with gauged brick heads. Included for group value.	476998	227619	Post-Medieval	Grade II Listed Building	Medium
1228040/M BC15735	Tuckey Farmhouse	House. Mid C18, repointed, Brick, with plinth, and moulded eaves. Old tile roof, flanking brick chimneys. 2 storeys and attic. 3 original bays, extended in matching style one bay to left. 5-pane barred sash windows to ground floor left-hand bays and to left of first floor, 4-pane sashes to first floor of bays 2 and 4. Paired barred casements to ground floor right and over door. 3 dormers with paired casements. Door in third bay has gabled hood on brackets. All ground floor openings have cambered heads.	475397	226763	Post-Medieval	Grade II Listed Building	Medium
1228076	Hair By Hathaway	Shop, house above. Mid C19. Colourwashed render to ground floor, white brick above with similarly rendered dressings. Boarded eaves on cut brackets, slate roof, white brick stack to right. 3 storeys, 3 bays. Imitation Georgian shop front. Upper storeys have giant pilasters of white brick with rendered capitals and bases, and tripartite sash windows with rendered voussoir heads and keyblocks. Included for group value.	476998	227587	Post-Medieval	Grade II Listed Building	Medium
1228117	14, High Street	Shop and house. Mid-late C18. Vitreous brick with red dressings, moulded wooden eaves cornice with enriched dentils, slate roof, brick stack to right, 2 storeys and attic, 3 bays. Projecting C19 shop front with moulded cornice. Doric pilasters and central door. First floor has barred sash windows with gauged brick heads. Attic has 2 dormers with cornice tops and paired leaded casements.	476998	227628	Post-Medieval	Grade II Listed Building	Medium

1228119	16, High Street	House. Circa 1830 refronting of C17 timber-framed house. Colourwashed stucco, rusticated to ground floor, smooth above with plinth, first floor band course, moulded eaves cornice and giant Doric pilasters at each end. Slate roof, brick stack to right of centre. 2 storeys, 5 irregular bays. Ground floor has canted bay window with cornice top to left, narrow sash windows flanking central door, and 4-pane sash to right. Sash windows have plain stucco surrounds with minimal Doric pilasters and pediment shaped tops. First floor has alternating 3-pane and 2-pane sashes in stucco architrave surrounds with moulded cornices on brackets. Half-glazed panelled door recessed with panelled reveals and flanking segments of stucco Doric columns. Flat wooden entablature hood on slender Doric columns to front.	476998	227640	Post-Medieval	Grade II Listed Building	Medium
1228137	18, High Street	Shop with house above. One bay of C17 2-bay house, sharing central chimney stack with No. 20. Timber frame, exposed in rear gable, planked to front. Remainder of front rendered. Old tile thin brick stack. 2 storeys and attic. Projecting ground floor has lean-to slate roof, C20 glazed door to left and square bay shop window to right. First floor has 4-light wooden casement with C20 glazing. 4-light leaded casement in attic dormer.	476998	227648	Post-Medieval	Grade II Listed Building	Medium
1228138	20, High Street	Shop. One bay of C17 2-bay house, sharing central chimney stack with No 18, concealed timber frame. Rendered front, old tile roof, thin brick stack with pilaster to right. 2 storeys and attic. C19 square bay shop window with cornice top to ground floor right, C19 3-light wooden casement to first floor, gabled dormer with paired barred wooden casement. Barred and glazed door to left with rectangular fanlight over.	476998	227652	Post-Medieval	Grade II Listed Building	Medium
1228139	22, High Street	Shop with house above, 2-bay C17 timber framed house, refronted mid-late C18, to left, C19 bay to right. Whitewashed brick, old tile roofs, brick stacks between left-hand bays and at right gable. Older part has plain parapet. C19 bay has moulded brick eaves. 2 storeys. Ground floor has C20 window with segmental head to left, and C19 shop front with moulded cornice to right-hand bays. First floor has 4-pane sash windows with segmental heads in left-hand bays, and canted oriel with minimal modillion cornice to right. Panelled door	476998	227662	Post-Medieval	Grade II Listed Building	Medium

		between left-hand bays has reeded surround with roundels to corners and small cornice. Another door, 4-panelled, to right.					
1228140	26, High Street	House. Small C17 timber framed house, refronted and extended mid-late C18, with long C18-C19 range of former outbuildings to rear. Vitreous brick in header bond with red brick plinth, quoins and window surrounds. Moulded brick eaves. Old tile roof, flanking brick stacks, that to right with C17 thin brick. 2 storeys and attic, 3 bays. Ground floor windows altered to 4-pane sashes with gauged brick heads, originally narrower. First floor has 3-pane sashes with moulded frames. Gabled dormers with paired wooden casements. Central 4-panelled door in wooden surround of moulded pilasters and flat cornice hood on cut scroll brackets. Rear range has re-used C18 windows.	476997	227679	Post-Medieval	Grade II Listed Building	Medium
1228141	Staniford House	House, C17-C18 house, altered late C18. Some timber framing with brick infill to rear, front of vitreous brick in header bond with red brick quoins, window surrounds and moulded eaves. Old tile roof with diamond patterns in lighter tiles, central stack. 2 storeys, 2 bays. 3-light leaded casements, those to ground floor with gauged brick heads. Central 6-panelled door has flat hood on cut brackets and blind brick panel above.	477012	227739	Post-Medieval	Grade II Listed Building	Medium
1228142	The Bull	Public house. C18, altered. Plum-coloured brick to front, rendered plinth and left gable, colourwashed brick to right gable. Moulded brick eaves, old tile roof, brick stacks to gables and between left-hand bays. 2 storeys and attic, 3 bays. Paired C19 sash windows, those to ground floor with gauged brick heads. Hipped dormers with C19 paired wooden casements and moulded cornices. Double C20 doors in reeded frame with surround of minimal Doric columns and entablature. Single storey extension to left with similar paired sash.	476917	227547	Post-Medieval	Grade II Listed Building	Medium
1228587	The Bakery	Bakery and house. Early C17 part of 3 bays to right, extended one bay to left late C17. Timber frame with curved braces, brick infill, colourwashed to left gable, and rendered plinth. Thatch roof, half-hipped to left, chimney stack of thin brick between right-hand bays, another stack to rear between left-hand bays. 2 storeys and attic. Barred wooden casements. Ground floor outer bays have early C20 square bay windows. 3-light casements to first floor and centre	476890	227557	Post-Medieval	Grade II Listed Building	Medium

		bays, those to ground floor centre with moulded wooden cornices. First floor right-hand window in thatch, 3-light leaded dormer window in second bay. 4-panel door to centre in moulded surround with cornice. 2 other doors with moulded cornices between right hand bays. Late C19 brick service block to rear.					
1228588	20, Horn Street	House. Early C18. Colourwashed brick, moulded brick eaves, old tile roof with brick coped gables, central chimney stack of plum-coloured brick with red corner dressings. 2 storeys and attic, 3 bays. C20 barred wooden casements, 3-light flanking 2-light. Lower right-hand window has colourwashed gauged brick head. 2 dormers have C20 paired wooden casements with pediments over. Central 6-panel door, top-lit, has wooden frieze panel with carved lozenge and early surround of pilaster strips and scroll brackets with reeding and rope ornament and flat wooden cornice hood.	476859	227576	Post-Medieval	Grade II Listed Building	Medium
1228589	22-24, Horn Street	Pair of houses. 3 bays to left are mid C18, extended one bay to right in matching style 1829 as dated in blue brick on stack to right gable. Chequer brick, red brick dressings, moulded brick eaves, gauged brick heads to ground floor windows. Old tile roof, 4 brick stacks. 2 storeys, 4 bays. Triple barred sash windows. 2 early C19 6-panel, top-lit doors in wooden surrounds with cornice hoods on curved brackets with notched ends. Central door has blind panel above. Second door between right hand bays.	476842	227586	Post-Medieval	Grade II Listed Building	Medium
1228591	Plough Cottage	House. C17, altered. Whitewashed render over timber frame. Thatched roof to left hand bays, tiled roof to right, brick stacks to left gable and rear of right-hand bay. 2 storeys and attic, 3 bays, right hand bay gabled to street. Ground floor has canted bay windows with barred sashes to centre of left-hand section and right-hand bay. Paired barred C19 wooden casements to first floor of each bay and in attic gable to right. C20 door with flanking single casements between right-hand bays.	476815	227597	Post-Medieval	Grade II Listed Building	Medium
1228592	The Barn Studio And Range Of Outbuildings To Rear	Former house and barn, now house and studio. Original house to left has C17 timber frame to rear and early-mid C18 front in range with barn of same date. Plum-coloured brick with red brick dressings. Old tile roof, hipped to right and with coped gable to left. Brick stacks. 2 storeys and attic. Present house, incorporating part	476763	227607	Post-Medieval	Grade II Listed Building	Medium

		of barn, has 6 bays, that to right with gabled projection, formerly waggon entry. 2 left-hand bays have C18 wooden mullion and transom windows with leaded lights and segmental heads, that to ground floor right a modern window in blocked doorway. Similar C20 windows in bays 4 and 6. Bays 1, 2 and 4 have gabled dormers with paired barred casements. Bays 3 and 5 have 6-panel doors with rectangular fanlights and cambered heads. Single leaded window with transom over door in bay 5. Blocked ventilation slits to former barn. Studio to right has high C20 window. Sun fire insurance plaque in bay 2. Rear of C17 house has some moulded oak mullion windows. Range of outbuildings to rear right has central timber framed section.					
1228593	30, Horn Street	House. Mid C18. Brick, brick plinth, cut brick eaves, old tile roof, central brick stack. 2 storeys and attic, 2 bays. Ground floor has 4-pane sashes, first floor has paired barred casements, all with cut brick heads. Central 6-panel door in wooden doorcase with minimal pilasters and pediment.	476758	227552	Post-Medieval	Grade II Listed Building	Medium
1228594	1, Horn Street	House. Late C16, extended late C18. C16 part is timber framed with garishly painted plaster infill to front and herringbone brick infill, partly painted to right side. Right side has curved braces. Tiled roof, thin brick chimney stack to left gable is shared with No.5 Market Square. 2 storeys, one bay. First floor is jettied to front. Front has tripartite sash window to ground floor, C19 3-light casement to first floor and 3-panelled door to left. Right gable has leaded casements, 2 2-light to ground floor, one 3-light to first floor, and 4-panelled door to right in open porch with hipped tiled roof. Late C18 extension to rear is of painted brick with moulded brick eaves, tiled roof and stack to right, 2 storeys, one bay, canted bay window with sashes to ground floor. 3-light leaded casement to first floor.	476924	227523	Post-Medieval	Grade II Listed Building	Medium
1228595	Scrummies	Includes No.2 The Walk. Restaurant and house. Early C18, altered and refronted mid C19. Colourwashed render, rendered band courses to left gable and rendered parapet with band courses and paired brackets to front. Old tile roof to front range with coped ogee brick gable and stack to right. Rear roofs are of slate. Front range has 2 storeys and attic, and 2 bays, Shop front with wooden dentil cornice on fluted Tuscan pilasters, recessed 6-panel door with	476922	227515	Post-Medieval	Grade II Listed Building	Medium

rectangular fanlight to right. First floor has canted bay windows with C19 sashes and pilasters to frames. Attic has hipped dormers with 3-light barred casements. 2-storey wing to rear has 2 bays at slight angle with canted bay windows to ground floor. First floor has tripartite sash to right, paired casement in left bay and hayloft door with winch opening above to left. Central door in rendered porch with simple cornice and parapet. Some timber framing inside.

1228596	Old Millfield House	Pair of houses. Late C18-early C19. Plum-coloured brick with red brick dressings, moulded brick eaves. Slate roof, brick stacks between left-hand bays and to right gable. 3 storeys with basement to right, 3 bays. 4-pane sash windows, those to ground and first floors with cambered heads. 6-panel doors between bays, both in moulded surrounds with roundels to corners, panelled friezes with flanking baluster ornament, and moulded cornices.	476915	227525	Post-Medieval	Grade II Listed Building	Medium
1228682	Lace Cottage	Cottage. C16-C17. Timber frame with waved braces, whitewashed brick infill and rendered plinth. Brick only to left gable. Thatch roof, brick stack to left gable. 2 storeys and attic, one bay. Ground floor has small tiled lean-to to left with paired barred wooden casement to front and small window to side. Similar 3-light casement to centre. First floor has 3-light leaded casement, 6-panel door to right has minimal wooden hood on cut brackets.	476794	227562	Post-Medieval	Grade II Listed Building	Medium
1228683	19, Horn Street	Cottage. Mid C19. Whitewashed brick, dentilled eaves, slate roof. 2 storeys, one bay. 3-light barred wooden casements, C20 door to left. Ground floor openings have segmental heads. Small weatherboarded extension set back to left gable adjoins No 17. Included for group value.	476791	227558	Post-Medieval	Grade II Listed Building	Medium
1228684	The Bell Hotel	Hotel. Early C19 re-fronting of C17 building with incomplete timber frame. C17 timber framed blocks to rear along Bell Alley, and over carriage entry to left of main front. Other brick outbuildings are late C19. Main N. front of whitewashed render, rusticated to ground floor and articulated with giant Doric pilasters, moulded plinth and cornice and band course at first floor level. Slate roof, 3 rendered chimneys. 2 storeys, 3 bays. Canted bay windows to ground floor, each with 2 4-pane sashes to front, lozenge patterned frieze and moulded cornice. Wide triple-hung sashes to first floor in architrave surrounds	476988	227546	Post-Medieval	Grade II Listed Building	Medium

with wooden cornices on scroll brackets over. 6-panelled door between left-hand bays has wooden surround of Doric half-columns, entablature blocks and pediment. Section of first floor wall above door has flanking pilasters. Painted curved brace in ground floor room. Interior of C17 part to rear has moulded ceiling beams.

1228685	5, Market Square	House. 2 bays of C17-early C18 3 bay house (for third bay see No.3 Market Square part.) Whitewashed render over timber frame, old tile roof, C20-brick chimney to left, stack of thin brick to right shared with No.1 Horn Street. 2 storeys. Ground floor has canted bay windows with barred lights and moulded cornices. First floor has 3-light leaded casements. Central door. Royal Exchange fire insurance plaque in left-hand bay. Outshot to rear.	476956	227541	Post-Medieval	Grade II Listed Building	Medium
1228686	7-9, Market Square	House and 2 shops with living accommodation above. C17, re-fronted late C18. Brick, whitewashed to No.9, dentilled eaves. Old tile roof, slate coped gable to left, brick stack to right. 2 storey and attic, 3 bays. Right-hand bays have C20 shopfronts, left-hand bay has wide C19 sash window with canted cornice above. First floor has 4 sash windows alternating with blind panels. Sash to No.7 has no glazing bars, panel to right painted. Remaining sashes barred. Attic dormer to centre of range has C20 casements. No. 7 has semi-glazed door to right in reeded surround with blank board above. 3 gabled bays to rear have timber framing.	476937	227555	Post-Medieval	Grade II Listed Building	Medium
1228687	17, Market Square	Shop with gallery above. C17, re-faced C18 with C19 shop front and side wall rebuilt C20. Timber frame visible inside with curved wind-braces in roof. C18 front of brick with red brick dressings, second floor band course and parapet hiding gable of old tile roof. 3 storeys, one bay to front. Shop front has gothicised Doric pilasters and cornice. Tudor-arched lights and door to left. First floor has 2 barred sash windows with cambered brick heads. Second floor has one 4-pane sash.	476936	227588	Post-Medieval	Grade II Listed Building	Medium
1228851	21-23, Market Square	Pair of houses. Late C18 refronting of older building. Brick, gauged brick heads to openings, rendered first floor band course, plain parapet with small moulded stone cornice, concealed tiled roofs, brick stacks. 3 storeys and basement, 3 bays. Triple-hung barred sash windows to ground floor left and first floor. Ground floor right-	476966	227600	Post-Medieval	Grade II Listed Building	Medium

hand bays have C19 - C20 canted bay windows with ogee lead roofs. Second floor has serlian windows with barred sashes. Basement openings have cut brick cambered heads. Doors between bays are set back in panelled reveals with semi-circular arches over fanlights and rendered impost blocks, left-hand door has 6 panels, the upper ones shaped, and radiating fanlight. Right-hand door is half-glazed with plain fanlight. Left-hand gable renovated 1891 with pebble-dash, tile-hanging and bargeboards. Small C17-C18 house attached to rear has some timber framing with brick infill in gable. Front to Church Walk is of whitewashed brick with first floor band course. Old tile roof, brick chimneys, 2 storeys, 2 bays, irregular leaded casements, C20 door.

1228852	25, Market Square	Restaurant. Mid C18. Chequer brick to front, colour washed roughcast to right gable. Tiled roof, brick coped gable to right, brick chimney to left. Moulded wooden eaves cornice with modillions, part of roof pitch cut away to form balcony with plain wooden railings. 2 storeys and attic, 2 bays. Barred sash windows to first floor; attic has hipped dormers with moulded wooden cornices, that to left with half-glazed door, that to right with paired leaded casement. Ground floor has early C19 shop front with barred wooden square bay window to right, restored C20, and panelled door to left. Door is recessed in panelled reveals with marginally glazed fanlight, and moulded pilaster strips and patera to sides. Moulded wooden entablature above, broken forward over window.	476976	227602	Post-Medieval	Grade II Listed Building	Medium
1228853	The Bakery	Shop with offices above. Early C19. Rendered groundfloor with moulded wooden cornice. Upper floors brick with rendered band courses, window surrounds and moulded cornice to parapet. Brick stack to right, roof concealed. 4 storeys, one bay with segmentally curving front. All windows and door also curved. Ground floor has C19 barred shop windows flanking central half-glazed door with rectangular fanlight. Upper storeys have 4-pane sash windows.	476958	227565	Post-Medieval	Grade II Listed Building	Medium
1228854	11 And 11a, Sheep Street	Pair of houses. Early-mid C19 refronting of older building. Right-hand gable is timber framed with brick infill, remainder rendered and colourwashed. Boarded eaves on small cut brackets, slate roof, brick stack to right gable, rendered stack to centre. Minimal rendered band course and flanking pilaster strips. All ground floor	477045	227568	Post-Medieval	Grade II Listed Building	Medium

		openings have rendered surrounds with shallow, triangular tops. 2 storeys, 4 bays. 4-pane sash windows, 3 to ground floor, 4 to first floor, the latter with wooden architrave surrounds. C20 door in left-hand bay. 4-panelled, half-glazed door to centre is set back in panelled recess in surround enriched with minimal pilasters and plain cornice hood on scroll brackets. Lean-to at rear of No. 11a has paired leaded casement. Long wing at right angles to rear of No. 11 is not of special interest.					
1228911	14, Market Square	Shop and offices. Early C18, altered. Part has concealed timber frame with brick infill. Now completely rendered with minimal pilasters flanking gable wall. Old tile roof, C19 bargeboards, brick stack to right, 2 storeys and attic, 2 bays. Projecting C19 shop fronts to left-hand bay and gable with double doors set diagonally across corner. C20 shop front to right. 4-pane sash windows to first floor, that to right in moulded architrave surround. Attic has large skylight. C19 doorcase to far right has moulded cornice and half-glazed door.	476963	227565	Post-Medieval	Grade II Listed Building	Medium
1228971	Westside	House and garage, formerly kitchen and servants' accommodation for Winslow Hall. Circa 1700, altered and extended C19 and 20. Vitreous brick, red brick quoins and window surrounds with moulded edges. Shallow gable with brick dentils and painted blind round window. Slate roof. Base of former brick chimney stack set back to left. 2 storeys. Front has C20 panelled door, with hood and garage entry to ground floor and 2 sash windows to first floor. Right side has 5 bays of sash windows. Blocked doorway in left bay, altered door in centre bay. Extended to west C19 with similar gabled bay to left and irregular sash windows,	477057	227592	Post-Medieval	Grade II Listed Building	Medium
1229145	The Close & The Coach House	2 houses, former coach house, and stables for Winslow Hall. C18, altered. Brick, much patched, moulded wooden eaves cornice, old tile roof hipped to road. One storey and attic. Irregular E. front has C20 metal casements to left, 3 to ground floor and 2 in hipped dormers. Entry to The Close at rear. Garage doors to left of centre with smaller hipped dormer above. The Coach House, to right, has 3 wooden windows with barred casements, and 3 hipped dormers, 2 with paired barred casements, centre one with half-glazed door, originally entry to hayloft. Original arched carriage entry now has C20 panelled door with flanking lights and large radiating fanlight.	477128	227574	Post-Medieval	Grade II Listed Building	Medium

Later block attached to N.E. corner has 2 leaded windows with segmental heads to S. and 3 hipped semi-dormers to E. Gable to street has elaborate cast iron bracket.

1229146	27, Sheep Street	Small house. Late C17. Timber frame with whitewashed brick infill. Thatched roof, central chimney stack of thin brick with lobby entry, smaller brick stack to left of house. 1½ storeys, 2 bays. Ground floor has tripartite barred sash windows with small wooden hoods on cut brackets. First floor has barred wooden casements in thatch, 2-light to left, 3-light to right. Central panelled door in moulded frame with late C18-early C19 wooden surround of moulded pilaster strips, roundels at corners, and plain shallow hood on moulded scroll brackets. Weatherboarded cart entry with thatched roof to left.	477241	227542	Post-Medieval	Grade II Listed Building	Medium
1229147	31, Sheep Street	House. C17, refronted C18. Right gable is timber framed with brick infill, part-herringbone. Frame also exposed to rear. Front is of patterned red and vitreous brick with red dressings and render below ground floor cill level. Thatched roof, brick end stacks. 2 storeys and attic, 3 small bays. Left-hand bays have 3-light wooden casements, right-hand bay has door and 2-light leaded casement to right. All ground floor openings have segmental heads.	477254	227538	Post-Medieval	Grade II Listed Building	Medium
1229148	41, Sheep Street	Small house. C17, refronted C19. Timber frame to rear has whitewashed brick infill, part C17, part C19 rat-trap bond. Front is of red brick, patched with white and with white brick segmental heads to ground floor windows. Rendered plinth. Slate roof, brick stack to rear. 2 storeys, 2 bays. Barred sash windows, central ledged door with Phoenix fire insurance plaque above. Small early C19 wing to rear is of whitewashed brick with some timber studding.	477298	227528	Post-Medieval	Grade II Listed Building	Medium
1229171	Wall, With Gate Piers And Gate, Along West Side Of Walled Garden To North East Of Winslow Hall	Garden wall. Early C18. Brick with plain brick coping. Ramped up to square corner pier with base of stone finial at N.end. Pair of gate piers with brick caps and stone ball finials. Later wrought iron gate.	477121	227637	Post-Medieval	Grade II Listed Building	Medium

1229237	Rose Cottage	Small house. Late C15, altered mid C18. Whitewashed brick, thatched roof, brickstack to left gable. 1½ storeys, 2 bays. 3-light leaded windows, those to ground floor with segmental heads, those to first floor in thatch. Ledged C20 door to centre. Cruck truss in right gable wall.	477247	227540	Post-Medieval	Grade II Listed Building	Medium
1229298	47, Sheep Street	House. C17. Whitewashed render and roughcast, timber frame exposed to rear and part of right gable. Thatched roof, chimney stack of thin brick between right-hand bays. Lobby entry. 1½ storeys, 3 bays, that to right wide. Leaded casements. 5-light to ground floor right-hand bay, remainder 3-light. Ground floor left-hand windows have segmental heads. First floor windows are in thatch. 4-panelled door with segmental head. Whitewashed brick outbuilding with lower tiled roof attached to right.	477331	227517	Post-Medieval	Grade II Listed Building	Medium
1229299	32 And 34, Sheep Street	House and cottage in range. C17. Cottage is timber frame with whitewashed brick infill and tiled roof, one storey and attic, one bay. 3-light leaded casement to left, board door to right with flat wooden hood on cut brackets. House has whitewashed roughcast over timber frame. Front has part of frame with curved brace showing to right, gable has frame to top with brick infill and brick below. Thatched roof, central brick chimney. T-plan lobby entry. 2 storeys, 2 irregular bays. 3-light leaded casements to ground floor and upper left, paired barred casement to upper right. Central board door with gabled wooden hood.	477267	227517	Post-Medieval	Grade II Listed Building	Medium
1229300	Rands Farmhouse	House. C17, refronted and extended mid C19. Complete timber frame, exposed to left gable with whitewashed brick infill, part herringbone. Rendered front with plinth, quoins and surrounds to openings. Roofs have slates to front, tiles to rear. Brick stacks to right gable and between left-hand bays. C17 L-plan house to left with C18 dairy attached to rear and C19 bay to right. Front has 2 storeys and 3 bays. Barred sash windows, those to ground floor in plain surrounds with shallow triangular tops, those to first floor with architraves. Door between left-hand bays has plain surround with shallow rendered cornice hood on brackets. 4-panelled door between right-hand bays has small rectangular fanlight and rendered doorcase of Doric columns, entablature and pediment.	477755	227321	Post-Medieval	Grade II Listed Building	Medium

Barred sash window above. Early C19 barn of weatherboard with slate roof in range to left.

1229301	Rosemary Cottage	Small house. C17. Timber frame with whitewashed infill, brick to ground floor, plaster to first floor. Diagonal braces, Thatched roof, central brick stack. 1½ storeys, 2 bays. Ground floor has paired leaded windows, one to left, 2 to right. First floor has 3-light barred wooden casements in thatch. Lean-to extensions at each end are of whitewashed brick with some slight framing and tiled roofs. That to left has single leaded casement, that to right has gabled weatherboarded porch and single leaded light to right. Lean-to to rear. Interior has staircase with short row of C18 twisted balusters to ground floor.	477712	227247	Post-Medieval	Grade II Listed Building	Medium
1229302	The Thatched Cottage	House. C17. Timber frame with partially whitewashed brick infill in west gable end, remainder has whitewashed roughcast. Thatched roof, half-hipped to left, brick stack to right, rendered stack to left. 2 storeys and attic, 2 bays. N. front has small irregular C19 casements with C20 door in left-hand bay and blocked door to right. S. front has C20 casements.	477213	227440	Post-Medieval	Grade II Listed Building	Medium
1229303	9-11, The Walk	Pair of houses. C17 house of 3 bays extended one bay to east C19. Original house timber framed, now covered with whitewashed render. Old tile roof, half-hipped to street. Brick chimneys to right and between left-hand bays. Lobby entry with gabled turret over staircase to rear of left-hand stack. 2 storeys and attic. Ground floor has wooden casements, 2-light to left-hand bays, 3-light to right. First floor right-hand bays have barred horizontal sliding sashes. Small window over door. C20 wooden casements to street gable, 4-light to ground floor, 3-light to first floor and attic. 6-panel half-glazed door in trellis porch between left-hand bays. Extension to right is of whitewashed brick with slate roof, dentilled eaves, 2 storeys, paired barred casements and door to right.	476928	227485	Post-Medieval	Grade II Listed Building	Medium
1229304	Lawn House	House, Late C18. S. front is of brick with red brick dressings to corners and window surrounds. Brick plinth, moulded brick eaves, tiled roof, brick coped gables and flanking chimneys, 2 storeys and cellar, 5 bays. Barred sash windows with gauged brick heads. Segmental arched openings in centre bay and over cellar window to	476908	227437	Post-Medieval	Grade II Listed Building	Medium

left, the latter with 2 barred wooden casements. Steps up to central double doors with leaded glazing and flat wooden hood above. C20 extensions set back to right. 2-span roof. Part of rear wing shows to left. N. front of colourwashed brick has attic storey with casement dormers and 4 bays, that to left gabled over 2 storey projection with parapet. Projection has transomed casements, remainder has irregular sash windows and panelled door in Ware doorcase. Brick garden walls with rounded brick coping run to N. and S. from W. corners of house. N. wall has square gate piers with moulded stone cornices and pyramidal caps.

1229362	The Pyghtle	House. C16. Timber frame with herringbone brick infill to front, later brick infill, part colourwashed to left gable and rear. Stone plinth. Lower left hand corner rebuilt in brick. Right gable wall of C18 brick, Thatched roof with small hip to right and rebuilt stack with pilasters between right hand bays. 2 storeys, 3 bays. Leaded windows: ground floor has 2-light to left and to right of door, and 3-light to right-hand bays; first floor has 3-light to left, single lights to centre and over door, and 2-light to right. Lobby entry with C20 door. Royal Exchange fire insurance plaque to centre. Modern lean-to to rear. Right-hand ground floor room has moulded spine beam, central ground floor window has moulded mullions.	477706	227217	Post-Medieval	Grade II Listed Building	Medium
1229377	Redhall Farmhouse	House. Late C18. Chequer brick below sill level, vitreous headers above with red brick dressings and moulded brick eaves. Old tile roof, flanking brick chimneys. L-plan with later lean-to extensions. 2 storeys and attic, 3 original bays. C19 3-light wooden casements to outer bays, similar 2-light to first floor centre. Central 4-panelled door in C20 brick and tile porch. Extended one bay to left in matching style but with hipped roof. Similar C20 3-light casement to ground floor. All ground-floor windows have cambered heads.	478093	228213	Post-Medieval	Grade II Listed Building	Medium
1232204	Padbury Mill	Former watermill and house. Mill to north is late C17-early C18. House attached to south much rebuilt C19 and early C20. Mill is timber framed with whitewashed brick infill to left bay and weatherboarded section to right over mill race. Tiled roof. Two storeys, two bays. Irregular small paired casements and board doors. Remnants of wooden mill wheel. House: brick with stone dressings, old tile roof; two storeys, three bays each with	470945	230000	Post-Medieval	Grade II Listed Building	Medium

		weatherboarded gable; mullion and transome windows; extended to south.					
1232833	Zennar	Shown on OS Map as The Bungalow. Cottage. C17 with mid C19 alterations. C17 rear wall of rendered cob on stone plinth; other walls rebuilt in mid C19 colourwashed brick; gabled thatch roof. 3-unit plan: the C17 house had a hall to the left of a lofted inner room. One storey; 3-window range. Mid C19 plank door set in beaded wood frame to centre. Two and 3-light casements with glazing bars, probably mid/late C19. Mid C19 one-storey, one-bay service extension to left, of colourwashed brick with gabled plain tile roof. Rear of cottage has small mid C19 one-light window set in pegged frame and a mid/late C19 one-light window with glazing bars. Interior: C19 partition to right of door has lower part of raised cruck to front, which is not fully visible above; to right of this is another C19 partition set under a low tie beam. Two bays to right have exposed through purlins and simple A-frame roof construction above, with some old thatching spars and rafters made from branches. The C17 fireplace could have been some form of smoke hood. A rare and interesting survival of a one-storey peasant house, probably representing the survival of a squatters house built on the edge of common land.	473822	230273	Post-Medieval	Grade II Listed Building	Medium
1234158	24 And 26, Church Street	Pair of houses. Dated 1722 in dark header brick, flanking C19-C20 extensions. Timber frame with diagonal braces, red and vitreous brick infill, and rubble stone plinth. Tiled roof, rebuilt central brick chimney. 2 storeys and attic, 2 original bays. Paired leaded casements, small window to centre, board door to left, flush-panelled door to right. Painted Phoenix fire insurance plaque to centre. Flanking brick extensions, each of one bay with irregular barred wooden casements, the right bay gabled to front, the left with attic dormer.	474809	220174	Post-Medieval	Grade II Listed Building	Medium
1234159	The Banner Farmhouse	House. C17, altered. Timber frame with diagonal braces and brick infill, part herringbone, whitewashed and part rendered to east. Far gable and ground floor of near bay rebuilt in brick. Rubble stone plinth. Tiled roof half-hipped to front, rebuilt brick chimney between far bays. 2 storeys and attic, 3 bays. Irregular leaded casements. E. side has 2 C17 canted oriel windows on shaped wooden brackets,	474849	220172	Post-Medieval	Grade II Listed Building	Medium

both with ovolo moulded wooden mullions, that to centre of first floor with blocked side lights, that to ground floor right with small tiled gable above. C17 4-light window between right bays, over lobby entry, has similar mullions. Similar 3-light window to rear. C20 door in C20 brick and tile porch. Board door to first floor at right of centre bay. Gable to street has old diamond leaded casements and single storey rubble stone extension. Interior: chamfered spine beams, that to centre bay stopped. Large rubble stone fireplace.

1234163	Barn At Grange Farm	Barn. C16. Timber frame with brick infill and plinth, old tile roof. 5 bays. Cart entry in left bay, slat window in second bay, stable door to left of centre, C20 lean-to cartshed to front of right bays. Interior has massive queen post trusses and ogee wind-braces. Late C18-early C19 block attached to right end is of chequer brick with moulded plinth, band course and eaves, and half-hipped old tile roof. 2 storeys, 2 bays, the upper floor with barred wooden casements in segmental heads. Other outbuildings attached to left and rear are not of special interest.	473507	220872	Post-Medieval	Grade II Listed Building	Medium
1234165	Station Road Farmhouse	House. Late C16-C17, extended C18, altered. Timber frame with diagonal braces, brick infill and rubble stone plinth. Left side rebuilt in brick C19. Old tile roof, half-hipped over main wing. Rebuilt chimney of thin brick to centre. L-plan, the left bay gabled and projecting with outshot to right side and lean-to extension to front of rear wing. 2 storeys, 2 bays. Outshot has C20 paired metal casement. Right bay has paired barred wooden casement and door in lean-to, and 3-light leaded casement above. Lower C18 bay to right is of red and vitreous brick with first floor band course and has cellar opening with segmental head, old paired leaded casement with similar head to ground floor, and 2-light window below eaves. Small outbuilding attached to right is of rubble stone, concrete blocks and weatherboarding.	474541	219855	Post-Medieval	Grade II Listed Building	Medium
1279097	4, The Walk	House. C17, refronted C18. Timber frame with brick infill to right gable, C18 brick to left gable, whitewashed render to front. Wooden eaves board, old tile roof, flanking external brick stacks. 2 storeys, 2 bays. Ground floor has canted bay windows with barred lights, that to left with moulded cornice. First floor has 4-pane sash windows in moulded frames. Central 6-panel door in slightly projecting porch	476919	227505	Post-Medieval	Grade II Listed Building	Medium

		with rectangular fanlight, panelled strip surround with roundels to corners, and flat wooden hood on cut brackets.					
1279103	5, Vicarage Road	House. C17, altered. Possibly timber framed in part, now covered with whitewashed render. Old tile roof, coped gable to left, central brick stack. T-plan with gabled projection part rubble stone, to north. 2 storeys, 2 bays. Projection has window with old mullion to first floor, similar window in S. front. Other windows C20. Entry to N.S. front has re-sited stone gargoyle heads at eaves. C20 conservatories to S. and in angle of N. front. C19 bay to E, formerly part of No.1, is not of special interest.	476949	227707	Post-Medieval	Grade II Listed Building	Medium
1279134	Yew Tree Cottage	House. Mid-late C18, extended to left later. Plaque dated 1903 to left gable. Chequer brick, plain brick band course, moulded brick eaves, old tile roof with brick coped gables, brick chimneys to gables and centre. 2 storeys and attic, 2 C18 bays to right one later bay to left. Right-hand bays have C19 3-light wooden casements, those to ground floor with segmental heads, and dormers with paired barred casements. Left hand bay has square bay window to ground floor, 2 3-light casements to first floor, and one dormer. 6-panelled door, top-lit between right hand bays has wooden surround of fluted pilasters and steep pediment, and blind panel above to first floor.	477242	227523	Post-Medieval	Grade II Listed Building	Medium
1279154	Acorn Cottage	Small house. C17. Whitewashed render to front with projecting rendered plinth and exposed wall plate, brick to right gable, timber frame with whitewashed plaster infill to rear. Thatched roof, central brick stack. 1½ storeys, 2 bays. 3-light barred wooden casements, those to ground floor in canted oriels, first floor windows under thatch eyebrows. Central ledged door. C20 extension to rear.	477305	227525	Post-Medieval	Grade II Listed Building	Medium
1279187	The Nags Head	Public house. C18. Red and vitreous brick, first floor band course, colour washed plinth, moulded brick eaves. Old tile roof, flanking brick chimneys. 2 storeys, 2 bays. Ground floor has canted bay windows with barred sashes. First floor has small 6-pane sashes. Central 6-panelled door has C19 wooden surround of pilasters with incised lines and small cornice hood on cut scroll brackets. Blind window panel above with painted inn sign.	477292	227531	Post-Medieval	Grade II Listed Building	Medium

1279221	Wall Round Garden To Front Of Winslow Hall, With Gate Piers And Gates	Wall around 3 sides of garden. Early C18, altered. Brick. Wall to south has plain stone coping. Central curving section with square-plan gate piers and wrought iron gate was rebuilt and altered 1959 (date on gate). Wall to east side has rounded brick coping and pair of C18 gate piers with wrought iron gate at north end. These piers are of red brick with fine gauged joints, moulded corners and moulded stone bases and caps with ball finials. Carved stone scrolls link piers to tops of walls. Wall to west side is mostly rebuilt but is included for group value.	477075	227564	Post-Medieval	Grade II Listed Building	Medium
1279222	25, Sheep Street	Small house. C17, altered C19. Some timber framing to rear, front of chequered red and white brick. Thatched roof, central chimney stack of thin brick with lobby entry. 1½ storeys, 2½ bays. Main bays have canted bay windows and 3-light leaded casements above in thatch. Half bay to left has C19 2-light window with segmental head to ground floor and small horizontal sliding sash above. 4-panelled door between main bays has rectangular fanlight and wooden doorcase with minimal pilaster strips and shallow cornice hood.	477226	227544	Post-Medieval	Grade II Listed Building	Medium
1279314	Brook Hall	House. Early C18, altered late C18. Plum-coloured brick with red brick quoins, window surrounds, gauged brick window heads, and moulded brick eaves. Moulded wooden eaves cornice with enriched dentils. Tiled roof, brick coped gables, brick chimneys to right gable and left of centre. 2 storeys, basement and attic, 6 bays. Late C18 sash windows with architrave frames. 3 dormers with cornice tops and paired wooden casements. 2 basement windows with segmental heads. 6-panelled door in third bay is set back in panelled reveals with architrave surround arched over radiating fanlight. Wooden porch has entablature hood supported by slender Doric columns on round brick piers.	477034	227569	Post-Medieval	Grade II Listed Building	Medium
1279355	12, Market Square	Estate agency. Late C17. Timber frame with brick infill to rear and part of ground floor front. Remainder brick, white washed to right side. Moulded wooden eaves cornice with modillions, moulded brick cornice with ball ornament at first floor level of right side. Wooden board across front at first floor level. Slate roof, hipped to right. Brick stack to right, stack of thin brick to left. 2 storeys and attic, 4 bays. Altered ground floor has square projecting C19 shop front with door	476951	227565	Post-Medieval	Grade II Listed Building	Medium

		in left-hand bays, and C20 window to right. First floor has barred sash windows. 2 gabled dormers with barred sashes.					
1279356	The George	Public house. Early C19 rebuilding of earlier structure. Some timber framing with brick infill in rear wall, remainder colour- washed stucco, part with rendered band courses and shaped brick eaves. Slate roof, hipped to front. E. front: 3 storeys, 2 bays; ground floor has wide sash window to left, off-centre door, and canted bay with sash windows to right. First floor has 4-pane sashes with segmental heads, and balcony with very fine wrought iron balustrade of elaborate scrolls, possibly from Claydon House. Second floor has 4-pane sashes. Left corner is angled. South front has irregular sash windows.	476957	227559	Post-Medieval	Grade II Listed Building	Medium
1279357	Winslow Hall	Mansion. Dated 1700. Accounts supervised by Sir Christopher Wren for William Lowndes. Vitreous brick, red brick window surrounds with moulded edges and gauged heads. Stone quoins, moulded capping to plinth, plain second floor, band course and moulded window sills. Moulded and modillioned wooden eaves cornice and pediment. Hipped slate roof with 4 rectangular brick chimneys in a row along the central spine. Chimneys have recessed panels, single to outer stacks, 2 panels to inner stacks, all with moulded stone caps. 3 storeys and lower ground floor. 7 bays, 3 to centre slightly projecting and pedimented. Barred sash windows to main storeys, those to second floor half the height of lower windows. Round window to attic in pediment.	477090	227590	Post-Medieval	Grade I Listed Building	High
1279435	9, Horn Street	House. C17, much altered late C19. Timber frame, probably original, with C19 brick infill and ornament. Patterned terracotta frieze at first floor level, moulded brick patterns to front gables. Right-hand gable is tile hung with panelled bargeboards. Old tile roof with ornamental ridge, brick stacks with pilasters and off-set heads to left and between right-hand bays. 2 storeys, the upper partly in the roof with gabled semi-dormers. 3 bays. 3-light wooden mullion and transom windows, those to first floor below moulded brick cornices with ball ornament. Central semi-glazed door in half-timbered gabled porch with twisted balusters and flanking single lights.	476838	227561	Post-Medieval	Grade II Listed Building	Medium

1279436	Old Quilters	Cottage. C17. Timber frame with diagonal braces and whitewashed brick infill. Brick gable. Thatch roof, brick stack to left. 1½ storeys, 2 bays. Leaded casements. Ground floor has 2-light window to left, 3-light to right. First floor has 3-light window to left, 2-light to right, both in thatch. Central modern door with leaded glazing.	476789	227555	Post-Medieval	Grade II Listed Building	Medium
1279437	Df Midgley, Ironmonger	Shop, store-rooms and house. Main block, included for group value, is late C19, with C18 bay, re-faced C19, to right and one bay of C17 house, structurally part of No. 5 Market Square to far right. C18 blocks to rear. Main block is of red brick with battlemented parapet and moulded cornice. 3 storeys, 2 bays facing square plus curving bay to left corner. Shop front with Doric pilasters and columns flanking corner door, sash windows above. Corner windows and door are curved. Refronted bay to right is of brick with rendered cornice at first floor level and quoins above. Tiled roof. 2 storeys and attic. Tripartite sashes with cambered heads, paired barred casement to dormer. Right gable is of C18 brick with brick coping, second floor band course and moulded band with ball ornament near apex. C17-C18 bay has whitewashed render to front over timber frame and old tile roof. Projecting shop front. C18 blocks to rear along Bell Walk are of brick with moulded eaves or plinth and band course. Tiled roofs, 2 storeys, irregular casements.	476968	227543	Post-Medieval	Grade II Listed Building	Medium
1279438	Old Crown House	House. Late C16, altered and re-fronted late C18. Interior shows timber frame. Front has colourwashed render to ground floor, roughcast above with smooth render quoins. Tiled roof with ornamental bands of grey and shaped tiles. Central gable has original carved bargeboards. Small brick chimney to left. 2 storeys and attic, 2 bays. Ground floor has paired barred sash windows and wooden entablature on Doric pilasters. First floor has tripartite sashes, one 4-pane sash in attic gable. Interior: house is 2 rooms deep with double-sided chimney stack to centre. Ground floor fireplace in front room has moulded stone jambs with slender shafts, and timber lintel with moulded Tudor arch. C17 panelling with carved foliage frieze in same room. First floor front room has fireplace with moulded stone Tudor arch and C18 panelling above. Frame of original window to rear of room. Spiral staircase. Attic landing has C17 splat balusters. Ground floor has wooden Doric column to front left. At one time a public house.	476937	227568	Post-Medieval	Grade II Listed Building	Medium

1287099	The Crooked Billet	Public house. C17, altered. Timber frame with brick infill to right gable, C19 brick front with toothed eaves. Slate roof, brick stacks to gables. 2 storeys, 4 bays. 4-pane sash windows, those to ground floor with whitewashed voussoir heads and keyblocks, First floor of second bay blank. C20 door in third bay with cornice hood on cut brackets. Roof continues over carriage entry to left with weatherboarding and board doors.	476846	227552	Post-Medieval	Grade II Listed Building	Medium
1287318	6, Horn Street	Cottage. C17, renovated 1982. Timber frame with brick infill, rendered to road. Tiled roof, C20 bargeboards, brick chimney to rear. 2 storeys and attic, one bay gabled to street. Paired wooden casements, one to ground floor left, 2 to first floor, one to attic. C20 semi-glazed door to right.	476902	227549	Post-Medieval	Grade II Listed Building	Medium
1287356	24, High Street	House. C17, refronted mid-late C18. Timber frame, exposed in left gable wall. Front of colourwashed render with plain parapet. Tiled roof, brick stack to left is shared with No. 26. 2 storeys, basement and attic, 2 bays. Fine C18 shop front with bowed windows flanking central door, all in wooden surround with moulded entablature on minimal pilasters. Left-hand window is 4-pane sash set in curved wall, right-hand window has 6 x 4 panes with thin glazing bars. Entablature broken forward over 5-panelled door with 2 slender Doric columns to front. First floor has 3-pane sash windows. Attic has gabled dormers with paired barred casements. Similar casements to cellars. 6-panelled ledged door to right.	476997	227672	Post-Medieval	Grade II Listed Building	Medium
1287357	Chesham House	House. Early C19. Red brick, slate roof, boarded eaves, 2 storeys and cellar, 3 bays, Outer bays have canted bay windows with cornice tops and sashes to ground floor, and 4-pane sashes with gauged brick heads, to first floor. Centre bay has C20 paired barred wooden casement to first floor, and door with 2 long panels in wooden surround of segmental pilaster strips and small hood on carved scroll brackets. Cellar window to left.	476966	228075	Post-Medieval	Grade II Listed Building	Medium
1287359	Bel Air Laundrette	Laundrette. Left side wall shares C17 timber truss with No.2a, front is late C18. Vitreous brick with red dressings, plain parapet and C20 tiled roof. 2 storeys, one bay. C20 shop front. Altered first floor has barred sash window with gauged brick head to left and C19 canted oriel with cornice top to right. Included for group value.	477001	227574	Post-Medieval	Grade II Listed Building	Medium

1287376	10, High Street	Offices and house. C17 timber frame exposed in right-hand gable wall and rear, refronted early mid C19. Stucco, channelled to ground floor, plain above with giant Doric pilasters flanking upper floors. Slate roof. 3 storeys, 2 bays. 4-pane sash windows those to ground floor in plain stucco surrounds with triangular tops, upper windows in architrave surrounds with cornices on brackets to first floor. Central 3-panel door, recessed with panelled reveals and stucco doorcase of Doric columns and plain entablature.	476998	227612	Post-Medieval	Grade II Listed Building	Medium
1287427	3-5, Bell Walk	2 small houses, formerly a single 3-bay house. C17-early C18, Timber frame exposed inside, whitewashed render to front and left gable with black painted bandcourse. Tiled roof, brick stack between left-hand bays. 2 storeys and attic, 3 bays. Leaded windows: 2-light in right-hand bays, 4-light to ground floor left with 3-light above. C20 3-light casement in hipped dormer. Ledged 6-panel door between left-hand bays, C20 door between right-hand bays with minimal wooden surround and hood on brackets.	476945	227510	Post-Medieval	Grade II Listed Building	Medium
1287428	Alwyn House	House. Early C19. Red brick, gauged brick heads to openings. Panelled eaves on small cut brackets, slate roof, flanking brick chimneys. 2 storeys and basement, 3 bays. Outer bays have 4-pane sashes, central bay has 3-pane sash over 3-panelled door, with semi-circular fanlight in panelled reveals.	476897	228213	Post-Medieval	Grade II Listed Building	Medium
1287429	Ashling	Cottage. C17, altered C18 and later. Timber frame to left gable, brick infill, weatherboard to top of gable. Brick front. Old tile roof, brick stack between right-hand bays. One storey and attic, 3 bays. C20 barred wooden casements, 3-light to ground floor, paired in central dormer. C20 door between right-hand bays.	476848	227623	Post-Medieval	Grade II Listed Building	Medium
1287430	Church Of St Laurence	Parish church. C14 nave, aisles, tower and chancel, altered late C15 much restored 1884-9. Late C15 S. porch. N. chapel and vestry 1889. Coursed rubble stone, tiled roof to nave and chancel, lead roofs to aisles. W. tower of 3 stages has battlemented parapet 3-light cusped perpendicular openings to bell-chamber, moulded Decorated doorway and 2-light window above to west much restored. Nave has plain parapet, 2 3-light late C15 cusped windows and small central quatrefoil window to clerestory. S. aisle has 4-light cusped Perpendicular windows flanking porch and in E. end wall,	476932	227653	Medieval	Grade II* Listed Building	High

		<p>and 2-light Decorated windows to right and in W. wall, much restored. S. door has moulded 2-centred archway. Fine C15 porch with battlemented parapet, finials, buttresses and 4-centred arch on slender shafts to front with moulded spandrels and ogee canopied niche. Roof with moulded purlins, ridge and carved bosses. N. aisle has restored Perpendicular 3-light windows, small 2-light Decorated windows to left and, in W. wall, and small 2-centred arched doorway. Chancel has 5-light Perpendicular window to E. a 4-light Perpendicular and 2-light Decorated window to S. and small Perpendicular doorway, all restored. Interior: tower has 2-centred double chamfered arches on semi-octagonal responds to nave and aisles. Nave has 4-bay arcade of similar arches on octagonal piers with moulded caps. Similar arch to chancel. S. chapel has piscina with 2 ogee cusped arches on corner of window reveal. N. aisle has fragments of C15 wall paintings of St. Thomas of Canterbury and St. Christopher. Aisle roofs partly original. Chancel has decorated cinquefoil piscina with carved spandrels, restored sedilia and aumbry, and C19 wall paintings. Altered C17 pulpit. Late C19-C20 glass.</p>					
1287549	Norden House	<p>House, surgery and service wing. 1891. By Ernest Newton for Dr. Vaizey. Red brick in English bond to ground floor, tile hung first floor. Hipped tile roof, brick chimneys. 2 storeys and attic, 4 bays, that to right gabled and projecting. Barred wooden casements, irregular 3-light to ground floor, 4-light to first floor with 2-light in second bay. Dormer to left with paired casement and cornice top. Entry to surgery in third bay has half-glazed door with flat wooden hood on shaped brackets and barred window to left. Service wing to left with garage and former stables forming small courtyard with house. Right side of house has 3 bays with canted bay windows flanking central half-glazed door with similar hood. 4-light casement to upper left, 2-light over door. Notable as an early work of Ernest Newton.</p>	476892	227969	Post-Medieval	Grade II Listed Building	Medium
1287956	20, Winslow Road	<p>Cottage. Early C19. Brick with dentilled eaves, slate roof and brick chimney to left. 2 storeys, one bay. 3-light casements, wooden with glazing bars to ground floor, leaded to first floor. Flush panelled door to left. All openings have segmental heads. Included for group value.</p>	479929	227438	Post-Medieval	Grade II Listed Building	Medium

1287957	22 And 24, Winslow Road	Pair of cottages. C17-early C18 house, half refronted late C18- early C19. Left bay is timber framed with C20 brick infill to ground floor and whitewashed brick infill above, Right bay is of brick. C20 tile roof, brick chimney to left. 2 storeys, 2 bays. 3-light leaded casements to first floor. Ground floor has barred wooden casements: 3-light to right, C20 2-light to left. 2 doors.	479922	227437	Post-Medieval	Grade II Listed Building	Medium
1287984	Charlton Hill Farmhouse	House. C17, refronted and extended C19. Timber frame with thin brick infill exposed in rear gable, rendered gables to front range, remainder refronted in red brick with dentilled eaves. Roof has altered slate front pitch and steeper tiled pitch to rear. Central chimney of thin brick with C19 dentilled top. T-plan, 2 storeys, 2 bays to front. Tripartite barred sash windows with segmental heads. Centre has lobby entry with 6-panelled door in wooden architrave surround with Greek fret frieze and cornice. Blind panel above to first floor. Interior has moulded spine beam and one room with C17 panelling.	480007	227417	Post-Medieval	Grade II Listed Building	Medium
1288176	Chapel At Swanbourne House School	School chapel, formerly garden room, Circa 1865. White brick, stone dressings. Plinth, moulded eaves cornice, pedimented gables, plain window surrounds. One storey, S, front of 3 bays. French doors with flanking sash windows. Gabled W, side has similar arrangement with narrower sashes, louvred roundel in tympanum and small wooden dovecote to right. Interior has wooden trusses to roof.	479969	227065	Post-Medieval	Grade II Listed Building	Medium
1288179	3 And 5, Winslow Road	Pair of cottages. Late C16. Timber frame with herringbone brick infill, brick and rendered rubble stone plinth. Half-hipped thatch roof, brick chimney between right-hand bays, 1½ storeys and cellar, 3 bays. 3-light leaded windows, 2 to first floor left in thatch, 2 to ground floor left with board shutters. No window to first floor right. Opening to cellar in left bay has timber lintel. Flush panelled door between right-hand bays with small square window and Sun fire insurance plaque above. Early C19 lean-to to right is timber framed with brick infill and has single leaded light to front and entry to side.	480049	227308	Post-Medieval	Grade II Listed Building	Medium
1288180	9-13, Winslow Road	Row of 3 cottages, formerly 4. C17, altered C19 and C20. Rear wall and some internal walls are timber framed with brick infill and plinth partly of rubble stone. Front wall rebuilt in brick C19, eaves raised	480038	227328	Post-Medieval	Grade II Listed Building	Medium

C20. C20 tiled roof. 4 brick chimneys, the second from left being of thin bricks. 1½ storeys, 6 bays. Barred wooden casements with segmental heads, 2-light to ground floor end bays, remainder 3-light. 5 upper windows in gabled semi-dormers. 3 board doors with segmental heads, one blocked doorway to left of right-hand bay. 2 original winder staircases.

1288181	Church Farmhouse	House. C17 L-plan house, refronted C19 and with C19 lean-to extension in rear angle. Timber frame with thin brick infill exposed to rear. Front of white brick. Half-hipped old tile roof, central chimney of thin brick with pilaster. 2 storeys, 2 bays. Tripartite sash windows, central 4-panelled door with blind semi-circular fanlight in brick arch.	480061	227373	Post-Medieval	Grade II Listed Building	Medium
1288207	Barracks Row	Row of cottages. C15, altered and extended C17 and early C19. Nos. 3-7 are timber framed with curved and diagonal braces, cruck truss exposed in left gable, and whitewashed brick infill. No. 9 is of whitewashed brick. Half-hipped thatch roof, 4 brick chimneys. 2 storeys to No. 9, remainder 1½ storeys with upper windows in thatch. 6 bays. No. 9 has 3-light leaded casements with segmental heads, similar head to door. Remainder has irregular C20 3-light barred wooden casements, with some leaded casements to ground floor. 4 doors. Lean-to to left.	479847	227479	Medieval	Grade II Listed Building	Medium
1288208	Boot House	House, formerly inn. C17, altered and extended early C19. 2 bays to right have timber frame with brick infill, left bay is of brick with moulded plinth. Tiled roof, brick chimney to right, 2 storeys and cellar, 3 bays. Left bays have paired wooden casements, right bay has canted bay window with hipped tiled roof to ground floor, and 2-light leaded casement above. Flush panelled door between right-hand bays. Gable to street has 3-light casements, of barred metal to ground floor, leaded to first floor, and C20 wooden casement to cellar.	479893	227513	Post-Medieval	Grade II Listed Building	Medium
1288209	Ivy Farmhouse	House. 2 early C17 bays, extended by 2 bays to east 1626, further single bay extension, dated 1718 on brick, projects to front of left bay. Timber frame with brick infill, mostly of thin brick. Front gable of projection rebuilt in brick C19, ground floor of right-hand bays rebuilt in brick C18. Tiled roof, thin brick chimneys between left bays and at centre, later brick chimneys to right and at junction with projection.	479887	227563	Post-Medieval	Grade II Listed Building	Medium

One storey and attic. Projection has 4-pane sashes with cambered heads to front. Second bay has 3-light barred wooden casement to ground floor and sash in gabled eaves-line dormer. Right-hand bays have C20 3-light leaded casements, those to first floor in similar dormers. 2-panel door to left of second bay in lean-to porch. Outbuilding of brick and weatherboard with tiled roof to right.

1288211	Dodleyhill Farmhouse	House. C17, altered and extended C19, Timber frame exposed to part of rear and upper left gable, remainder covered with pebbledash. Old tile roof, flanking brick chimneys. T-plan with central passage. 2 storeys and attic, 3 bays. Outer bays have C19 tripartite sash windows to ground floor and C20 3-light metal casements to first floor. Centre has small sash window over C20 door in C19 surround of fluted pilaster strips, scroll brackets, panelled frieze and cornice hood. Attic windows to gables. Rear wing has lean-to of coursed rubble stone to far end, and later extension in N.W. angle with main wing. C19 extension to left is of red and white brick with dentilled eaves and slate roof. 2 storeys. Ground floor has 2 3-light leaded windows with segmental heads to left, small wooden window to right and C20 3-light metal casement to first floor. 6-panelled door, top-lit, with lean-to hood on brackets between right-hand windows.	479790	228340	Post-Medieval	Grade II Listed Building	Medium
1288274	Old Post Cottage	House. Late C18 cottage with former post office, now house, dated 1847 to right. Whitewashed render. Cottage: thatched roof with brick stack to right; 2 storeys, 2 bays; paired wooden casement to right, similar smaller casements to first floor; blocked door to left; single storey extension with slate roof and 3-light barred casement to left. Post Office: slate roof, central brick stack; 2 storeys, 3 bays; large barred windows with cambered heads to ground floor, 3-light C19 casements to first floor; windows in right-hand bay altered or renewed; double board doors between left-hand bays.	466442	226388	Post-Medieval	Grade II Listed Building	Medium
1288292	St Mary's House	House. C15 hall of 3 bays with solar of one bay to south. Altered and extended by 2 bays to north C16 and C19. Hall and solar timber framed with tile-hanging and brick plinth to 3 south bays, remainder chequer brick with north gable wall of rubble stone. Tiled roof, hipped over 5 bays to south, enclosing gabled cross wing of solar. Central chimney stack, with 3 attached shafts of thin brick, other	466547	226693	Medieval	Grade II Listed Building	Medium

		stacks to E. gable of solar and N. gable of extension. 2 storeys. Irregular C19 wooden casements to E. and W., 3-light leaded casement to ground floor of S. front with 2 4-pane sashes to first floor. E. front has timber framed gabled porch to third bay with moulded bargeboards, door frame and wooden benches inside. 12-panelled studded door, complete with original hinges and handles, in moulded inner frame. W. front has C19 projection to left. Interior: hall and first floor of solar originally open to roof. Arched wind braces. Hall has 2 smoke- blackened trusses with collars on chamfered arched braces and one queen strut truss. Solar also has braced collars. First floor and chimney inserted C16. Hall has late C16 staircase with moulded balusters, square newel posts and pointed finials, possibly resited; large open fireplace and altered dado panelling.					
1288297	K6 Telephone Kiosk	Telephone kiosk. Type K6. Designed 1935 by Sir Giles Gilbert Scott. Made by various contractors. Cast iron. Square kiosk with domed roof. Unperforated crowns to top panels and margin glazing to windows and door.	472151	225799	Modern	Grade II Listed Building	Medium
1288313	The Milk Pail	Cottage. C17. Timber framed with brick infill, plastered to right-hand gable. Thatched roof, central brick stack. 1½ storeys, 2 bays. C20 leaded casements, 3-light to ground floor left, 2-light to right with single light above in thatch. Central C20 door. Right-hand gable has similar windows to ground and first floors with small paired casement above. Lean-tos to left and rear.	469812	227092	Post-Medieval	Grade II Listed Building	Medium
1288314	The Red Lion	Public house. C19 alterations to older building. Main block to right of whitewashed brick with toothed brick eaves, slate roof and flanking brick chimneys. 2 storeys, 2 bays. C19 3-light casements, leaded to ground floor right and outer lights of first floor windows. Central door. Older bay to left is part rubble stone, part brick and render, all whitewashed, with concealed remnants of timber frame. Tiled roof, half-hipped to left. Barred C19 casements, 2-light to ground floor left, 3-light to first floor. Small window to ground floor right.	466451	226673	Post-Medieval	Grade II Listed Building	Medium
1288326	Willowvale Cottage	House. C17. Timber framed with large rectangular panels of whitewashed brick infill. Thatched roof, brick stacks to gables and centre. 2 storeys, 4 bays. Barred wooden casements, paired to	469500	226880	Post-Medieval	Grade II Listed Building	Medium

		ground floor left-hand bays and 3 first floor windows, 3-light to ground floor right-hand bays. Central C20 6-panel door in reeded surround. Additional single storey bay to right has 3-light casement with arched top in hipped thatch roof.					
1288336	Well Cottage	Row of 3 cottages, formerly a pair. C16, altered. Timber frame exposed in left gable and rear wall, remainder encased in brick. No. 40 has chequered brickwork dated T. 1. 1753 in blue headers on right gable. Nos. 42-44 have late C19 rat-trap bond brickwork. Thatched roof, half-hipped; brick stacks to gables and centre. 1 1/2 storeys, first floor windows in thatch. No. 40, to right, has 2 bays of 3-light leaded casements with timber lintels, off- centre C20 door and outshot to rear. Nos. 42-44, together, have 2 bays of similar 3-light windows with cambered heads to ground floor, paired leaded casement to upper right and C19 door in metal porch to right. C20 flat-roofed extension to left with cruck truss exposed in remainder of original gable above. Another cruck truss between left-hand bays. Sill beam in rear wall, probably re-used, has carved date 1639.	470126	226918	Post-Medieval	Grade II Listed Building	Medium
1288355	10, North End Road	Cottage. C17. Timber framed with whitewashed brick infill. Thatched roof, hipped to street gable, half-hipped at far end. Central brick stack. 1 1/2 storeys, 2 bays. Ground floor has barred wooden casements, 2-light to left, 3-light to right. First floor has C20 3-light metal casement in thatch to right. Ledged board doors to each side. C19 extension to street gable with slate roof is not of special interest.	469757	227140	Post-Medieval	Grade II Listed Building	Medium
1288356	Tudor Cottage	House. C17. Timber frame with diagonal braces and whitewashed brick infill on blackened rubble stone plinth. Thatched roof, half-hipped to right. Brick stack between right-hand bays. 1 1/2 storeys, 3 bays. Ground floor has barred window to left and C19 3-light wooden casements to right-hand bays. First floor has C19 3-light barred wooden casements in thatch. C20 door between right-hand bays in timber gabled and thatched porch. Rear has similar casements and small canted bay window to left with lean-to roof on bracketed cornice, 2 other similar windows with cornice obscured.	469784	227248	Post-Medieval	Grade II Listed Building	Medium

1288360	The Small Cottage	Cottage. C17. Timber frame with whitewashed plaster infill and diagonal braces. Thatched roof, brick chimneys to centre and right-hand gable. 1½ storeys, 2 bays. Leaded casements, 2-light to ground floor right, 3-light in left-hand bay with upper window in thatch. C20 door to left in lean-to tiled porch. Leaded casements to first floor gable ends.	470244	226894	Post-Medieval	Grade II Listed Building	Medium
1288410	3, Chaloner Hill	Small house. C17, altered. Timber framed with whitewashed brick infill, plastered panels and planked frame to left-hand bays. Thatch roof, rendered stack between left-hand bays. 1½ storeys, 3 bays. Leaded casements: C20 2-light to ground floor outer bays, 3-light to centre with cambered head; central 3-light window in thatch with old frame. C20 door with cambered head between right-hand bays. C20 extension to rear.	469898	227013	Post-Medieval	Grade II Listed Building	Medium
1288425	Old Post Office	Public room, former library, and house. Dated 1827 on plaque to right gable, altered. Pebble dash over brick, half-timbered porch, tiled roofs, 2 brick stacks each with 3 square shafts set diagonally. Picturesque Gothick. 2 storeys. N. front has 5 bays, outer bays set back, 2-storey projecting gabled porch to centre with lean-to to right. Inner bays gabled to front. Irregular windows with cast iron lattice casements to ground floor and leaded casements to first floor. 2 doors in 4-centred arched frames with similarly arched and glazed lights to upper half. Verandah to left side and rear. Built at expense of Mr. Abel Smith, son-in-law of Sir Harry Calvert of Claydon House.	472124	225761	Post-Medieval	Grade II Listed Building	Medium
1288449	Almshouses A To D (Consecutive)	Row of 4 flats, originally 6 almshouses. Late C17, altered. Vitreous brick in header bond, red brick window surrounds with gauged heads. Brick plinth, moulded stone eaves cornice. Hipped old tile roof, 4 brick stacks with minimal entablature tops. One storey and attic, 7 irregular bays. Central gabled bay has plain flanking brick pilasters with moulded caps and stone kneelers. Ground floor has 6 thickly barred 3-pane sash windows. 4 gabled dormers with C19 paired casements. Centre bay has 2 similar casements above pair of doors in single gabled porch. 4 other doors, all half-glazed. C19 porches with blue and white brick patterns to gables, wavy bargeboards and fishscale tiles. End walls chequer brick with square bay windows and dormers. Originally near church, moved to present site mid C18.	472001	225759	Post-Medieval	Grade II Listed Building	Medium

1288460/M BC16837	Muxwell Farmhouse	House. C17 restored C20. Timber framed with brick infill, some patterned. Thatched roof, half-hipped to left. Chimney stack of thin brick between right-hand bays. 2 storeys and attic. 3 main bays of 4-light leaded casements to west, 3-light to upper left. Lobby entry has C20 timber framed and thatched porch, 2-light leaded casement above and C19-C20 jettied gable to attic with small 3-light leaded window. Rear has outshot to left-hand bays with paired leaded casements in thatch to first floor and attic. C19 extension at right-angles to rear right. S. gable wall has original oak window with moulded and plain diagonal mullions to ground floor right.	471870	224041	Post-Medieval	Grade II Listed Building	Medium
1288461/M BC5967	Claydon House	Mansion. W. wing containing state rooms built late 1760s-early 1770s for Ralph, second Earl Verney. Luke Lightfoot in charge of work until 1769, with intervention of Sir Thomas Robinson 1768-1771. Remainder of house to rear is mid C18 remodelling of older building with S. front altered 1860s.	471917	225334	Post-Medieval	Grade I Listed Building	High
1288485	Corner Cottage	Cottage. C18. Whitewashed roughcast, thatch roof, stacks to gables and left of centre, that to right external. Right hand bays have band course and buttress to front corner. One-and-a-half storeys, three bays. Right-hand bays have C19 wooden casements, 3-light to ground floor, paired to windows in thatch. Left-hand bay has four-panelled door in C19 whitewashed brick porch with single casement to right.	473539	229988	Post-Medieval	Grade II Listed Building	Medium
1288486	Ryan's Cottage	Cottage. C17. Rubble stone patched with brick. Gable end has stone base, brick with blue diaper patterning above, and two large battered buttresses. Old tile roof, central stack with thin brick to base and two rebuilt diagonal shafts above. One-and-a-half storeys, two bays. N.W. front has C19 three-light wooden casements, cambered heads to ground floor, eaves-breaking dormers above. C19 gabled brick porch with slate roof to S.E. front.	473577	229888	Post-Medieval	Grade II Listed Building	Medium
1288496	Rose Cottage And The Old Dairy	Pair of cottages. C17-early C18. Timber framed, whitewashed plaster and brick infill, thatched roof, brick end stacks. One-and-a-half storeys, two bays. Left hand bay has barred casement in thatch and paired C19 casement to ground floor with board door to left. Single storey thatched extension of whitewashed brick with one	473715	230214	Post-Medieval	Grade II Listed Building	Medium

		barred casement to left. Right hand bay has three C20 metal casements to ground floor and C20 extension to right.					
1288497	Plum Tree Cottage	House, formerly 2 cottages. Dated SWH 1770 on tablet by upper left window. Rubble stone, timber lintels to openings, thatched roof, brick stacks to gables and centre. 2 storeys, 4 irregular bays. C20 paired barred wooden casements, 5 to ground floor, second from left in former doorway, and 4 to first floor. Ledged board door to left of right-hand cottage. Fire insurance plaque between upper right-hand windows. Single storey brick extension with tiled roof to right.	464788	223300	Post-Medieval	Grade II Listed Building	Medium
1288498	Grove House	House. Mid C18, altered. Coursed rubble stone brick first floor band course and dentilled eaves. Old tile roof, flanking brick stacks. 2 storeys and attic, 3 bays. Ground floor outer bays have altered windows with C20 paired casements and cambered stone heads. First floor has sash windows with timber lintels. 3 gabled dormers with paired casements. Central 4-panelled door with rectangular fanlight set back in rendered surround. Single storey 2-bay extension to left is of brick with minimal timber frame, tiled roof and small central stack.	464594	222782	Post-Medieval	Grade II Listed Building	Medium
1288505	Barn At The White House	Barn. Late C18. Timber framed and weatherboarded on brick plinth, corrugated iron roof. Three bays with central waggon entry and low central door. Diagonal braces. Queen strut trusses with braced tie beams.	473615	230289	Post-Medieval	Grade II Listed Building	Medium
1288506	Adstock Priory	House 1911 with re-used C17 timbers. Timber framed with brick infill in various patterns. Thatched roof, three brick stacks with vertical grooves. One-and-a-half storeys, five bays. Outer bays gabled to street, three centre bays have thatch eyebrows to first floor and higher central ridge. Leaded casements with wooden mullions and upper glazing bars, irregular to ground floor, three light to first floor. Square bay window with hipped tiled roof to ground floor right of centre, barred and glazed door in slight projection with gabled top to left-hand bay. Sun fire insurance plaques in entry gable and central bay. Included for group value.	473600	230177	Modern	Grade II Listed Building	Medium
1288520	Church Of St Cecilia	Parish Church. Nave C12 altered C15. Chancel and S porch C14; W. tower C15. Re-roofed late C16, restored C19, modern vestry to	473509	230110	Medieval	Grade I Listed Building	High

N. of tower. Coursed rubble stone, lead roof to nave, tiled chancel and porch. W. tower of two stages: tall lower stage has plinth, diagonal off- set buttresses, irregular slit windows, and 2-light decorated window to W.; top stage has restored quoins and 2-light openings to bell-chamber, arched with blind tracery to S., battlemented parapet and cast iron weathervane. Nave has ironstone quoins to corners, angle buttresses and battlemented parapet. SE. corner has small ironstone sanctus bellcote. Two bays of large 3-light Perpendicular windows with transoms. S. porch has moulded C14 arch, restored. S. doorway has moulded 2-centre arch on C12 base with impost and capitals to shafts carved with heads, foliage and scalloped ornament. N. doorway is C12 altered: moulded label with large carved head stops over carved panel with later ogee arch. Chancel has 2-bays of 2-light Decorated windows, those to W. lower and transomed. 3-light Decorated E. window. Interior: tower and chancel arches triple chamfered. Cusped piscina. C15 octagonal font with carved panels on moulded base. Early C17 altar table. Other fittings and glass C19. Cartouche 1720 to 3 Thomas Egertons, rectors, on S.wall of nave.

1288523	Cromwell House	House. Circa 1600. Coursed rubble stone, timber lintels to openings, thatched roof. Small brick stack to left gable, 2 other stacks of thin brick, rebuilt, with square shafts set diagonally, 2 to stack between left-hand bays, single shaft to right gable. 1½ storeys, 3 bays. Irregular wooden casements, renewed C20, 4-light to ground floor left-hand bays, 2-light to right and to first floor. Upper windows in small gables with thatch swept round. Lobby entry between left-hand bays has 9-panelled, studded door of old oak in moulded and stopped frame, and small staircase windows to left, the upper one blocked. Blocked doorway between right-hand bays. Interior: massive stop- chamfered spine beams and joists. Fragments of c1600 paintings on front wall. Staircase to front of stack has old treads.	464535	223050	Post-Medieval	Grade II Listed Building	Medium
1288527	Nampara Cottage	Small house. C17 early C18 with later extensions. Original cottage of rubble stone, roughly rendered to front and rear. Thatched roof, brick stack to S. gable. 1½ storeys, 2 bays. One bay of C20 barred wooden casements to right of W. side, the upper one in thatch eyebrow. Left-hand bay has projecting C19 2-storey extension with	464763	223334	Post-Medieval	Grade II Listed Building	Medium

timber studding, whitewashed rendered infill, tiled roof, C20 casements and entry. C19 and C20 extensions to N. with slate and flat roofs are not of special interest. The general appearance of the house indicates a later date than that implied by a beam end inscribed "1P+ 1535".

1288528	4, The College	Small house. C17-C18. Whitewashed. Original 2 bay cottage of rubble stone, extended in brick to north C19, and east C20. Thatched roof, hipped to south, brick stack to north of cottage. W. side has paired C19 wooden casements with first floor window to centre bay in thatch. Ledged board doors in outer bays, that to right with C20 conservatory.	464745	223276	Post-Medieval	Grade II Listed Building	Medium
1288530	Tythe Barn	Barn. Late C16 with outshot additions. Brick, old tiled roof. Continuous outshot of various materials under same roof to W., S. and part of east walls. Central cart entrance with segmental arch and steep gable above. Double row of ventilating slits to interior. Five bays. Outer trusses have braced tie beams, raking struts and braced collars. Inner trusses have arched braces to collar beam with another collar above.	474207	228636	Post-Medieval	Grade II Listed Building	Medium
1288533	The Stable Block & The Stocks & Vine Cottage	Former stable block to Addington House, now flats and workshops. Dated 1642 on tablet re-set above central arch, later wings to rear. Brick with roughcast render to S.front and plain render to bonded window surrounds, arch, quoins, first floor band course and cornice. Brick eaves and coping to pediment. Steeply pitched hipped old tile roof. Two storeys, seven bays. Centre bay has pediment, rebuilt arch to rear courtyard and barred metal window to first floor. Similar windows to right-hand bays and ground floor left. Leaded lights in wooden mullion and transom windows to first floor of left hand bays. Later lean-to to right and C19 block attached to front left-hand corner are of no special interest. Rear of main block has dentilled brick eaves, band course and plinth, with irregular C20 sash windows, doors and skylights. 2-storey range at right angles to E. has irregular C20 casements, doors and bay windows, upper doors to former haylofts, and village stocks re-set against wall to centre. Single storey range to W. has one 3-light leaded window with transom C20 casements and door.	474272	228614	Post-Medieval	Grade II Listed Building	Medium

1288568	School House	Former school and school-master's house, now house. Dated 1876 on chimney plaque. Gift of R. Hon. J.G. Hubbard M.P. later Lord Addington. Red brick with bands of blue brick and stone dressings. Tiled roof with ornamental panelled bargeboards. Picturesque Jacobean style. School room of one storey to right has two gabled bays of 3-light stone mullioned windows with bonded stone surrounds, small square centre lights over and small stone roundels at apex of gable. Elaborate external chimney stack between bays has decorative date plaque and octagonal stone shaft. Door to left has open timber porch with hipped roof, ogee arch with ornamented spandrels to front and balusters with decorative cusping to side. Enclosed porch to right gable is half-timbered with some herringbone brick infill and pointed arched door. Open bellcote over right hand bay has shingled spirelet. School-master's house in cross wing to left has hipped roof and tall Jacobean chimney shafts. Two storeys. Gable to front has 3-light sash window with stone mullions to first floor and square bay window with similar lights and hipped roof below.	474194	228709	Post-Medieval	Grade II Listed Building	Medium
1288572	Home Farm House	House. Circa 1600 section of 2 bays to left with timber frame, angled braces, whitewashed brick infill and whitewashed rubble stone to plinth and left gable. 2 C17-C18 bays to right in coursed rubble stone. Thatched roof, brick stacks to centre of stone section and left gable, the latter with thin brick to base. 1 1/2 storeys. C19 casements, paired and barred to ground floor of second bay and 3 left-hand windows in thatch; 3-light to remainder of ground floor. Modern door with timber gabled hood on brackets to right of timber framed section.	464684	223107	Post-Medieval	Grade II Listed Building	Medium
1288573	Wall To Garden Of The Manor House	Garden wall. C18. Rubble stone. Small section to E. of front garden is of brick.	464765	223149	Post-Medieval	Grade II Listed Building	Medium
1288574	Barn At Manor Farm At South West Corner Of Churchyard	Barn. C19. Coursed rubble stone, hipped tiled roof. 2 storeys. 2 stable doors to left, 2 garage entries to right, 3 first floor openings, that to centre with C20 casement, and 2 skylights. Included for group value.	464743	223205	Post-Medieval	Grade II Listed Building	Medium

1288588	Long Herdon Farmhouse	Cottage. C18. Whitewashed rubble stone, timber lintels to openings. Thatched roof, brick end stacks. 1½ storeys, 2 bays. Paired barred casements to ground floor and in thatch to right. Single storey whitewashed brick extension with slate roof to left. Rear has 3-light barred casements flanking central c20 door, and 3 paired casements in thatch.	464949	223118	Post-Medieval	Grade II Listed Building	Medium
1288591	1-2, Acland Terrace	Semi-detached house. Circa 1850. Coursed rubble stone, plinth, rendered first floor band course inscribed "Acland Cottages". Tiled roof, end rafters exposed at gables. Central rectangular chimney stack with stone base and blue brick above. 2 storeys, 4 symmetrical bays, the outer bays lower and set back. Stone mullion windows, those to first floor with segmental relieving arches and gables over. Centre bays have 3-light windows to ground floor, 2-light above. Outer bays have single lights and half-glazed doors with lean-to hoods bracketted on stone corbels in angle with centre bays. Built for Sir Henry Acland, as improved housing for the Ewelme estate.	464558	223095	Post-Medieval	Grade II Listed Building	Medium
1288627	Plough Inn	Public house. C17. Coursed rubble stone, old tile roof, large brick stack with pilasters and off-set head to right of centre. 2 storeys and attic, 4 bays. Leaded casements with moulded wooden cornices above: 4-light to ground floor of second bay and above door, remainder 3-light. 2 gabled dormers with 3-light casements, that to left with leaded central pane. Lobby entry in third bay has original 9-panelled oak door in moulded frame. Single storey extension toright has hipped tiled roof. C20 extensions to rear right.	464760	223106	Post-Medieval	Grade II Listed Building	Medium
1288631	Lower Farmhouse	House, former row of cottages. Early C18, altered. Chequer brick to front, some rubble stone to gable walls and rear of right-hand bay, timber frame with brick infill to remainder of rear and part of left gable. Modern tile roof, 3 brick chimneys. 1½ storeys, 4 bays. Irregular C19 wooden casements to ground floor. First floor has 3 semi-dormers with paired barred casements. 2 doors.	467765	222035	Post-Medieval	Grade II Listed Building	Medium
1288640	Cross In Churchyard	Remains of cross. C14. Stone. Stepped base to octagonal shaft with remnants of moulded cap.	468567	228768	Medieval	Grade II Listed Building	Medium

1288641	Church Of All Saints	Parish Church. Mid C15 W. tower of rubble stone. Remainder rebuilt after 1493 in ashlar, restored 1874-5 by Sir George Gilbert Scott, and again in 1960.	468569	228753	Medieval	Grade I Listed Building	High
1288649	Barn To South West Of Rectory Farmhouse	Barn. C18. Weatherboarded over timber frame. Half-hipped corrugated iron roof. 5 bays. Waggon entry in second left-hand bay. Boarded window in fourth bay. Right-hand gable has hay loft door and slat window. Most roof timbers renewed. Included for group value. C20 range attached to left is not of special interest.	467948	222776	Post-Medieval	Grade II Listed Building	Medium
1288650	Barn Adjacent To West And Outbuilding To North Of Manor Farmhouse	Barn. Late C18. Stone plinth, timber frame and weatherboard above, corrugated iron roof over thatch. 4 bays. Off-centre waggon entry. Trusses have braced tie beams, collars, double purlins and small raking struts. E. side has lean-to at each end, that to N. with extension to small C17 outbuilding with timber frame and brick infill. N. side fronts churchyard.	467996	222758	Post-Medieval	Grade II Listed Building	Medium
1288707	Cartshed To North Of Oakham Farmhouse	Cartshed C18. Weatherboarded on timber frame pantiled roof. Three open bays roofed with queen strut trusses and braced tie beams. Included for group value only.	478861	225690	Post-Medieval	Grade II Listed Building	Medium
1288708	Deverell's Farmhouse	House. Dated 1632 on tablet at top of porch gable. Large blocks of coursed rubble limestone, moulded stone string course at first floor level. Old tile roof, restored stone coped gables and kneelers. Rebuilt brick chimney in third bay has grouped shafts, with off-set heads and pilasters. Smaller brick chimney to left. T-plan. 2 storeys and attic, 4 bays. Moulded stone mullion windows with leaded lights, 2-light to ground floor left, 4-light above and in second and fourth bays, that to ground floor right much restored. Third bay has 2-storey and attic gabled porch projection with much restored moulded Tudor arch, 3-light window above with hoodmould, and small rectangular leaded light to attic. Gable ends have 3-light attic windows with hoodmoulds. Similar wing to rear opposite porch. Interior largely altered C18 with plain panelled dados and late C18 fireplace surrounds, delicately carved, one with carved frieze panel of hunting scene. Right-hand front room also has corner cupboard of same date with arched curved doors and ornamental frieze. Inner front door is C17 with moulded and stopped oak frame.	480188	227276	Post-Medieval	Grade II Listed Building	Medium

1288709	7, Mursley Road	House. C17, altered late C19-early C20. Timber frame with colour-washed brick infill and ground floor. Thatch roof, half-hipped to left, central chimney stack of thin brick, small later chimney to right gable. L-plan with lower range to rear of left bay. 2 storeys and attic, 2 bays and lobby entry. Late C19-C20 sash windows, tripartite flanking 2-light, central half-glazed door. All openings have late C19-C20 wooden Tudor hoodmoulds. Right gable has single leaded casement to attic. Left gable has C19 lean-to of chequer brick with tiled roof half-hipped to front, paired barred wooden casement to ground floor and single leaded light above. Timber frame of rear wing has curved braces, C17 brick infill, one storey and attic, and one bay.	480254	227299	Post-Medieval	Grade II Listed Building	Medium
1288710	Outbuilding To The West Of The Old House	Small outbuilding. Early C19. Brick, partly chequered and colourwashed, old tile roof. One storey. 2 board doors. Central wooden cupola, octagonal with arched open sides and wooden ball finial to ogee lead roof. Included for group value.	480259	227258	Post-Medieval	Grade II Listed Building	Medium
1288979	35, Quainton Road	House. C17. Timber frame with whitewashed brick infill. Upper gables have C20 brick infill, partly herringbone. Half-hipped thatch roof, brick chimney between right-hand bays. 1½ storeys, 4 irregular bays. C19-C20 barred wooden casements, irregular to ground floor, 2 3-light in thatch. C20 door between right-hand bays. C20 weatherboard lean-to to right.	477122	222867	Post-Medieval	Grade II Listed Building	Medium
1288980	Marstonfields Farmhouse	House. Dated 1779 on brick by front door. Chequer brick with moulded brick plinth and eaves. Rubble stone plinth to right end. Cut brick heads to openings. Old tile roof, tile coped gables, brick chimneys to gables and in fourth bay. 2 storeys, 5 bays. C20 3-light barred wooden casements. Similar 2-light to first floor of centre bay. Ground floor right-hand window incorporates French doors to kitchen. Blocked window to ground floor of fourth bay. Late C18 6-panelled door to centre with rectangular fanlight and C20 gabled brick porch. Lower block attached to right is dated 1813 on re-sited stone tablet. Lower wing at right-angles to rear is rebuilt C20.	478014	224012	Post-Medieval	Grade II Listed Building	Medium
1289006	The Wheatsheaf	House. C17, altered and extended. Timber frame with whitewashed brick infill, left gable rebuilt in whitewashed brick. Thatched roof, flanking brick chimneys. 2 storeys, 2 bays. Left bay has C19 3-light	477344	222810	Post-Medieval	Grade II Listed Building	Medium

wooden casement over board door. Remainder of N. front is obscured by 2 gabled extensions with tiled roofs. Right-hand extension is timber framed with brick infill, all whitewashed, and has one storey and attic. Horizontal sliding sash to ground floor, 2 single wooden casements to first floor, lean-to with paired casement to right. Left-hand extension of whitewashed brick is of one storey with bay window to front and external chimney to side. Small C20 extension and porch to rear. Formerly The Wheatsheaf Inn.

1289032	The Bell	Public house. Late C18. Chequer brick, whitewashed rendered plinth, dentilled brick eaves. Old tile roof, brick coped gables, flanking brick chimneys. 2 storeys, 4 bays. Each half of ground floor is double fronted with barred sashes in canted bay windows to left and segmental-headed C19 3-light wooden casements to right. First floor has 3 3-light barred wooden casements. Left door is C20 with flat wooden hood on cut brackets. Right door is also C20 but with segmental head. Left gable has moulded brick plinth, plain first and second floor band courses and 2 blocked round windows to first floor, Rendered wing of one bay to rear.	477528	222737	Post-Medieval	Grade II Listed Building	Medium
1289068	1, High Street	House. C17 bay to right, extended mid C19. Right bay has timber frame with brick infill, colourwashed to front. Right gable rebuilt C18 in red and vitreous brick with similar coping. Old tile roof. 2 storeys. 3-light barred wooden casements. C19 extension is of colourwashed brick with slate roof, hipped to left, and chimney of white brick. 2 storeys, 3 bays. Left bay has 4-pane sash windows, right bay has 3-pane sash over flush-panelled door with semi-circular fanlight. Windows have white-painted voussoir heads, door has white-painted brick arch.	477418	222868	Post-Medieval	Grade II Listed Building	Medium
1289087	St John's Manor	House. T-plan with C14 wing to rear, altered, and C16 wing with early C17 and C20 alterations to front. Front wing has close studded timber frame with curved braces, some brick infill, partly herringbone, and some lathe and plaster infill. First floor is continuously jettied but underbuilt with white brick and covered with colourwashed render above. Old tile roof, C17 brick chimney between left-hand bays.	476686	222378	Medieval	Grade II Listed Building	Medium

1289107	Barn Range Adjacent To North West Of Fulbrook Farmhouse	Large barn with smaller barn attached to S. end. C17. Large barn is timber framed with weatherboard cladding to front and rear, asbestos hung tiles to left gable, and lower part of right gable rebuilt in C17 brick. Small barn is timber framed with brick infill. Brick plinths. Corrugated asbestos roofs. Large barn has 4 bays with central door and hayloft door, C19 pigeon holes and left part obscured by lean-to shed. Trusses have 2 tiers of queen struts on braced tie beams, and clasped double purlins with curved wind-braces. Partition has ogee tension braces. Smaller barn of 2 bays has central queen strut truss.	474955	222515	Post-Medieval	Grade II Listed Building	Medium
1289163	Hogshaw Hill Farmhouse	House. Mid-late C18. Chequer brick with red brick quoins and window surrounds. Plain brick band course, moulded eaves. Left bay is C19 red brick extension in matching style. Old tile roof with brick coped gables and brick chimneys to right and between left bays. 2 storeys and attic, 3 bays. Original house to right is double fronted with tripartite sash windows to ground floor right and first floor, early C20 square bay window to ground floor left, and blind panel to first floor centre over door. 2 gabled dormers with paired barred wooden casements. 6-panelled door in gabled timber porch. Left bay has matching tripartite sashes and flush panelled door to left in C20 gabled brick porch. Later C19 range parallel to rear of left bay.	474535	222118	Post-Medieval	Grade II Listed Building	Medium
1289262	The Old Dairy	House. C17 cottage, altered and extended C19. Timber frame with colourwashed brick infill to left gable, refronted C19 in colour-washed brick. Thatch roof, half-hipped to left, central chimney of colourwashed brick. One storey and attic. 2 irregular bays. Ground floor has 2 barred sashes and one C20 leaded cross-casement, all with segmental heads. First floor has 3-light leaded casement to centre. C20 door in left gable. Outshot to rear. C19 extension to right is of colourwashed brick with dentilled eaves and slate roof. 2 storeys. Ground floor has leaded cross-casement to left, and barred sash to right, similar sash to first floor, all with segmental heads. Extended to rear C20.	476684	225169	Post-Medieval	Grade II Listed Building	Medium
1289322	Small Barn Adjacent To	Small barn. C17-C18. Timber frame and weatherboard, half-hipped roof with C20 tiles. 3 bays. Double board doors to centre, single board doors to outer bays. Included for group value.	476829	225026	Post-Medieval	Grade II Listed Building	Medium

South West Of Number 2							
1289323	Goblin Cottage	Cottage. C17-early C18. Timber frame with small diagonal braces and brick infill. Rubble stone and brick plinth, patch of rubble stone to right gable. Thatched roof, brick chimney to right. One storey and attic, 2 bays. Leaded casements, 3-light to ground floor with strip of diamond glazing over smaller right-hand window, small 2-light in thatch to right. 3-light leaded casement to first floor of left gable. Small extension to rear. Interior has spine beam dated 1724, old board doors and original spiral staircase in line with chimney.	476931	225092	Post-Medieval	Grade II Listed Building	Medium
1289326	Grange Farmhouse	House. C17 house of 3 bays to left, the left bay rebuilt, with early C18 2-bay extension, formerly dairy and grain store, to right. 2 right-hand bays of house have timber framing with curved and diagonal braces, all refaced in whitewashed brick. Left bay rebuilt in similar brick. Extension has timber frame of slighter scantling and brick facing dated 1797, with moulded eaves, also whitewashed. Old tile roof, half-hipped to left, brick chimney between left bays. Original house is of one storey and an attic with 2 first floor windows in eaves-line dormers. 2-storey extension. C20 3-light wooden casements. Third bay has C20 door with flanking single lights in C20 timber gabled porch. Another C20 door in right gable.	477161	225102	Post-Medieval	Grade II Listed Building	Medium
1289327	Rookery Farmhouse	House. Late C16-C17. Timber frame with diagonal braces and whitewashed brick infill to end bays and rear. Whitewashed rubble stone plinth. Front of centre bay rebuilt with whitewashed rubble stone to ground floor and brick above. Half-hipped old tile roof, 2 brick chimneys off-centre to right. 2 storeys, 3 bays. 3-light wooden casements with horizontal glazing bars, that to upper left C20. Lower right-hand windows have segmental heads, one with rendered voussoir. Flush panelled door between right-hand bays with Sun fire insurance plaque above. Rear has C20 casements and C18 2-storey extension of brick with tiled roof forming L-plan. Further C19 bay, now part garage attached to gable of extension. Interior: centre room on ground floor has moulded and stopped spine beam and section of painted frieze with floral motifs and shield with date of 1628. Spiral staircase. Upper left-hand rooms probably once open to roof. Ground floor has one original oak	476510	225268	Post-Medieval	Grade II Listed Building	Medium

window with moulded jambs and central mullion and 2 diamond mullions.

1289555	Inglenooks	House. C17. Timber frame with colourwashed plaster infill. Thatch roof, hipped to left, half-hipped to right. Brick chimney between left bays. 1½ storeys, 3 bays. C20 3-light leaded casements to ground floor and to centre of first floor in thatch. C20 door between left bays with C20 timber gabled porch. Fire insurance plaque.	473791	225574	Post-Medieval	Grade II Listed Building	Medium
1289556	Sparrows Thatch	House. C17, altered. Timber frame with whitewashed render and brick infill. Whitewashed rubble stone plinth to rear. Front of left-hand bays rebuilt in whitewashed brick. Old tile roof, formerly thatched, with half-hip to left. Brick chimneys between left-hand bays and external to right. 2 storeys, 3 bays. Irregular single and 2-light barred wooden casements, that to upper left a C20 semi-dormer in tiled eyebrow. Entry between right-hand bays has C20 gabled porch. C20 single storey extension projecting from left bay is of whitewashed brick with slate roof and shallow gable.	476695	224964	Post-Medieval	Grade II Listed Building	Medium
1289557	25, Green End	Small house. C17 early C18 altered. Gable walls have whitewashed render over timber frame, C19 brick to front. Thatched roof, central brick chimney. 1½ storeys and attic, 2 bays. 3-light leaded casements, C20 to ground floor, older first floor windows in thatch. Central lobby entry with C20 door. All ground floor openings have segmental heads. Small single casements to attic in gables. Garage attached to right.	476941	225119	Post-Medieval	Grade II Listed Building	Medium
1289625/M BC10766	Church Of St Mary	Parish Church. Transitional S. chapel, C14 chancel, C15-C16 W. tower and alterations to nave. C19 N. aisle, vestry and S. porch. Very much restored by Sir G.G. Scott 1871. Rubble stone with large coursed blocks to tower and chancel. Nave has lead roof, remainder tiled. Tower of 3 stages has diagonal buttresses, battlemented parapet and paired lights to bell-chamber. W. side has moulded 4-centred arch to door and 3-light cusped window with 4-centred head. Single light to second stage of N. side. Nave has plain parapet, lancet to W. of N. side, 2-light window with Y tracery to S. of S. side and clerestory of 2 3-light windows to S. S. door has 2-centred chamfered arch and gabled timber porch. S. chapel has lancet windows, one to W., 2 to S. and E. N. aisle has 3 bays of 2-	474003	225534	Medieval	Grade II* Listed Building	High

light windows with Y tracery, and re-used C16 doorway with 4-centred arch and carved spandrels. Chancel has restored Decorated windows, 2 2-light to S., one to N. and 3-light to E. Vestry to N. Interior: double chamfered tower arch. C19 N. arcade with chamfered arches on octagonal piers. S. arcade has one Transitional arch, square cut with outer zig-zag moulding and moulded impost. To E. of this arch is a C15 arched opening with carved head stops to hoodmould. S. chapel has C13 piscina and steps to rood-loft. Original moulded purlins and ridge to nave roof. Steeply pointed, double chamfered chancel arch with inner order on corbels with carved winged figures. Chancel has 2-light traceried window to vestry, and C19 piscina. Fittings: much restored C15 octagonal font; C17 communion table in S. chapel; glass in E. window 1887; other fittings C19. Monument: C18 marble wall monument in nave with flanking Doric pilasters and side scrolls, and crest of urns and shield.

1289626/M BC16571	Cle Des Champs	Cottage. C18 and C19. Minimal timber frame with whitewashed brick infill, thatch roof with hip to S., brick chimneys. Picturesque. 2 centre bays, probably C18, have one storey and an attic with paired leaded casement to ground floor left, 2-light window to right and single leaded casement in boarded gabled dormer. Small extension to right has single leaded casement. Single storey extension to left has paired metal casement and central C20 door. E. side has leaded casements and attic dormer with tiled apron.	473135	224568	Post-Medieval	Grade II Listed Building	Medium
1289627/M BC16573	5, Orchard Way	House. C15, altered. Timber frame with brick infill, whitewashed to front, right gable part rendered. Left gable shows cruck truss, 3 other cruck trusses inside. Half-hipped thatch roof. Brick chimneys between right-hand bays and external to left gable. 1½ storeys, 3 bays. Leaded casements, 3-light to ground floor of left bays, 2-light to ground floor right and to first floor centre in thatch. Blocked doorway between right bays has arched timber head, board door between left bays.	473265	224491	Medieval	Grade II Listed Building	Medium
1289628/M BC16575	Quamby	House. C15, altered. Timber frame with brick infill, whitewashed to front, right gable part rendered. Left gable shows cruck truss, 3 other cruck trusses inside. Half-hipped thatch roof. Brick chimneys between right-hand bays and external to left gable. 1½ storeys, 3	473139	224534	Post-Medieval	Grade II Listed Building	Medium

		bays. Leaded casements, 3-light to ground floor of left bays, 2-light to ground floor right and to first floor centre in thatch. Blocked doorway between right bays has arched timber head, board door between left bays.					
1289629	Fletchers	House. C17, altered. Timber frame with curved braces, brick infill and brick plinth. Half-hipped thatch roof, brick chimney between left-hand bays. 1½ storeys, 3 bays. C20 leaded casements, 3-light to ground floor, 2-light to first floor. Outer first floor windows are in thatched eyebrows, centre window is in gabled semi-dormer with tablet dated 1641. Additional old 2-light leaded casement below eaves between left bays. Entry in C20 brick lean-to to rear.	473760	225625	Post-Medieval	Grade II Listed Building	Medium
1289651/M BC7351	Wall To Front Of White House Farmhouse	Garden wall. C18. Chequer brick. Moulded plinth, steeply pitched capping with moulded ridge and modillion base. Ramped up to gateway with segmental brick arch and wooden gate to centre front.	473950	225598	Post-Medieval	Grade II Listed Building	Medium
1289689/M BC16565	42 And 44, Botyl Road	House. C17-C18, much altered C19. Right-hand bay has whitewashed roughcast over timber frame and tiled roof with half hip to right. One storey and attic. 3-light casement with C20 glazing to front, C20 extensions to rear. Left-hand bays remodelled mid C19: whitewashed brick, dentil eaves, old tile roof, flanking brick chimneys with paired diagonal shafts. 2 storeys, 3 bays. Leaded casements, 3-light flanking 2-light, central gabled porch with board door. Interior has central wall with C17 close studding. Included for group value.	473412	224711	Post-Medieval	Grade II Listed Building	Medium
1289690/M BC16567	3, Church Way	House. Dated 1795 on bricks by door. Chequer brick, old tile roof, flanking brick chimneys. 2 storeys, 2 bays. 3-light casements with barred wooden lights to ground floor, leaded lights to first floor. Entry in right gable, Late C19 extensions to rear.	473863	225628	Post-Medieval	Grade II Listed Building	Medium
1289761/M BC16559	Claydon Cottage	Pair of cottages. C17. Timber frame with diagonal braces and whitewashed brick infill. Half-hipped thatch roof. Brick chimneys to centre of each cottage, that to right of thin brick. 1½ storeys, 4 bays. No. 41 has barred wooden casement to ground floor left and 3-light leaded casements to right, that to first floor in thatch. Board door to right. Whitewashed brick lean-to with tiled roof and paired leaded casement to left. No. 43 has C20 paired leaded casements to	473391	224711	Post-Medieval	Grade II Listed Building	Medium

ground floor and in thatch to left, and single leaded staircase window to left of centre. Central C20 door. Interior of No. 43 has chamfered spine beam and segmental arch to rebuilt spiral staircase in line with chimney, C20 extension to rear.

1289762/M BC16560	45, Botyl Road	House. C17, altered. Timber frame with diagonal braces and whitewashed brick infill, blackened brick plinth. Tiled roof, central brick chimney. One storey, attic and basement, 2 bays. Gable to street has wooden casements with horizontal glazing bars, 3-light and single light to basement, 2-light with board hoods to main floor and attic. Right side has irregular casements, door in C20 lean-to porch to right, and lean-to at far end.	473390	224733	Post-Medieval	Grade II Listed Building	Medium
1311241	6, Upper Street	House. C17-early C18, altered. Refronted or rebuilt in whitewashed brick with some timber framing in left end. Hipped thatch roof with brick chimneys to ends of ridge. L-plan. One storey and attic, 2 main bays with flanking half bays. C20 paired leaded casements, those to ground floor with segmental heads, 2 to attic in dormers with tiled aprons. Lean-to in front of right bay has slate roof and similar 3-light casement. Single storey range to rear of left bay. Formerly the Boot Inn.	474549	220191	Post-Medieval	Grade II Listed Building	Medium
1311287	Numbers 11 And 13 (The Old Farmhouse)	House, formerly a pair. C17, altered and extended. Timber frame with diagonal braces, whitewashed brick infill and rubble stone plinth. Left bay is later extension of whitewashed brick. Tiled roof, central chimney of thin brick, later chimney to left. L-plan. One storey and attic, 4 bays. Ground floor of 3 bays to left has paired leaded casements, that to centre old. Windows above are in eaves-line dormers, the left with C20 paired leaded casement and sloping roof, the centre with older 3-light leaded casement and gable, the right with paired barred wooden casement and sloping roof. Right bay has C19-C20 gabled extension of whitewashed brick with C20 leaded casements. C20 door to centre of range. Weatherboarded extension to left.	474532	220012	Post-Medieval	Grade II Listed Building	Medium
1311311	31, The Green	House. Circa 1830. Red brick, dentil eaves, slate roof, flanking brick chimneys. 2 storeys, 2 bays. Double fronted. 4-pane sashes, those to ground floor with roughly gauged brick heads. Central flush-panelled door, top-lit, in C20 gabled trellis porch. Additional bay to	474687	220118	Post-Medieval	Grade II Listed Building	Medium

right has 2-storey projection with small gables to sides and C20 4-pane sashes.

1311320	Ford Cottage & Rose Cottage	Pair of cottages. Late C16-C17 and later C17-early C18. Taller bay to left has timber frame with whitewashed brick infill, partly herringbone, and left gable wall of whitewashed rubble stone. Second bay is of whitewashed brick to front and whitewashed rubble and mud to rear. Remainder rendered and whitewashed. Thatched roofs, half-hipped over left gable; 3 whitewashed rendered chimneys, one to right of timber framed bay, another between right bays, third to right. One storey and attic, 4 bays. Irregular wooden casements, 6 to ground floor. Left bay has small paired casement below eaves to right, over C20 door and gabled porch. Second bay has old 3-light casement in thatch with tiled apron. Right bays have dormers with slate aprons, and central C20 porch with flat roof. Similar C20 single storey extension to right. Interior: ovolo moulded and stopped spine beam in left bay, chamfered spine in second bay.	472067	217095	Post-Medieval	Grade II Listed Building	Medium
1311357	Windmill Cottage	House, at one time 3 cottages. C17, altered late C18 and later. Rubble stone plinth, some thin brick above. Some timber framing, partly rendered, in cross wing to right and in left gable. Remainder rebuilt in red and vitreous brick, the first floor of centre bay patterned with vertical strips of red brick. Partial first floor band course, dentil eaves. Old tile roof, half-hipped over cross wing. Chimney of thin brick between left bays, another small brick chimney to right wing. L-plan, the right bay projecting to front. 2 storeys, 3 bays. C20 3 and 4-light barred wooden casements. C20 door between left bays, board door with segmental head in left return wall of right bay. Small brick extension to left.	474680	220174	Post-Medieval	Grade II Listed Building	Medium
1311381	Magpie Cottage	House. Dated 1763 on bricks, altered mid C19. Right side is of red brick with gauged brick heads to ground floor openings. Front has ornamental pebbledash with smoothly rendered and whitewashed quoins and bonded surrounds to openings. Brick plinth. Old tile roof, hipped to right. Brick chimneys. L-plan. 2 storeys, 3 bays. Old paired leaded casements with pebbledash voussoirs. Central 6-panelled door, top lit, in wooden architrave frame with flat wooden cornice hood. Right side has 4 bays of similar casements, the	474622	220155	Post-Medieval	Grade II Listed Building	Medium

		second bay with a 2-panelled door, and an early C19 extension to right. Phoenix fire insurance plaque. Plaque at upper right-hand corner of front wall records birth of George Lipscomb, Historian of Buckinghamshire, in this house January 4th 1773.					
1311394	Well Head In Courtyard At Doddershall House	Well-head. C18. Ashlar. Circular with 2 shallow steps. 2 square piers, originally to support chain gear, with moulded cornices and ball finials. Included for group value.	472033	220122	Post-Medieval	Grade II Listed Building	Medium
1311401	Upper South Farmhouse	House. C16 and early C17 L-plan house with C18 extension to west forming T-plan, and late C18-C19 extensions in rear N.W. angle and at W. end. Original rear wing of L-plan building has some timber framing to first floor, roughcast and whitewashed at gable end. Remainder refronted with C18 chequer brick. Old tile roofs, brick chimneys flanking main bays of S. front. 2 storeys, 3 main bays. 3-light leaded casements, central flush panelled door with top lights. Ground floor openings have segmental heads. Lower bay to left has half-hipped roof and similar casement. Interior of original left bay has C16 moulded spine beam and fireplace lintel. Room to centre has later ovolo moulded spine.	472986	219371	Post-Medieval	Grade II Listed Building	Medium
1311427	Barn 10 Metres To South West Of Shakespeare Farmhouse	Barn. C17, altered C20. Timber frame and C20 weatherboard, half-hipped corrugated asbestos roof. 4 bays. E. side has 2 garage entries with sliding doors to left, and lean-to to right of centre. Queen post trusses on braced tie beams, diagonal wind-braces. Included for group value.	467826	220853	Post-Medieval	Grade II Listed Building	Medium
1311432	Minstrel Cottage	House. C15-early C16 and C17. Timber frame with whitewashed brick infill and rubble stone plinth. Thatched roof, half-hipped to right over weatherboarded outbuilding of one bay. Rebuilt brick chimney with pilasters between left bays. Taller C17 bay to left is of 1½ storeys with 3-light leaded casements, that to ground floor with board hood, upper window in thatch. 2 lower bays to right are of one storey and an attic and have paired leaded casements to ground floor and lobby entry to left. Lean-to at left end with hipped thatch roof. Right bay of house has flanking cruck trusses, centre bay has stop-chamfered spine beam.	468081	220756	Medieval	Grade II Listed Building	Medium

1311436	The Old Bakery	House. C17 altered and extended. Timber frame with whitewashed brick infill, near gable rebuilt in whitewashed brick. Thatched roof, rebuilt central brick chimney. 1½ storeys, 2 bays. Front has 3-light wooden casement to ground floor left, single barred wooden casement to right, and paired leaded casement to first floor left in thatch. Central board door. Gable to road has 3-light barred wooden casements and an additional single light to first floor. C20 lean-to to rear. C19 2-storey extension to left is of whitewashed brick with slate roof, paired wooden casements and board door to each floor. Single storey C20 projection attached to left corner. Phoenix fire insurance plaque to front gable.	468306	220620	Post-Medieval	Grade II Listed Building	Medium
1311446	Baker's Cottage	House. C17, altered. Timber frame with diagonal braces and colourwashed render infill. C20 tiled roof, brick chimney to rear. L-plan. One storey and attic, 2 bays to front. Ground floor has old leaded windows: one 3-light casement in wooden architrave frame to right, and 2 paired casements. Upper floor has C20 paired leaded casement in gabled eaves-line dormer to right. 4-panelled door in wooden architrave frame between right windows. Rear wing also has C20 leaded casements. Small tiled oven projection to centre of right side. C20 single storey extension to rear.	474887	220183	Post-Medieval	Grade II Listed Building	Medium
1311450	Summer Place	House. C17-early C18 with C19 bay to left and C20 2-bay extension to right. Original cottage of 2 bays has slight timber frame with diagonal braces, whitewashed brick infill and rubble stone plinth. Left bay is of whitewashed brick. Thatched roof, brick chimney to right of centre. C20 brick chimney to left gable divides around first floor casement. 1½ storeys. Paired leaded casements to ground floor, another to centre in thatch. C20 gabled timber porch between left bays. Extension to right is of whitewashed brick with half-timbering, tiled roof and C20 leaded casements, those to first floor in large gabled dormers with weatherboarding.	468222	220721	Post-Medieval	Grade II Listed Building	Medium
1311462	Numbers 40 To 54 And Flanking Outbuildings	Row of 8 almshouses with small outbuilding at each end. Dated 1687 on plaques, erected and endowed at the expense of Richard Winwood whose father, Sir Ralph, was principal Secretary of State to James I. Thin chequer brick with vitreous headers, moulded brick plinth, gauged first floor band course, brick pilasters at each end. Old tile roof, brick copings to main gables. 4 intermediate brick	474943	220170	Post-Medieval	Grade II* Listed Building	High

		chimney stacks, each with 4 attached diagonal shafts. Symmetrical range of one storey and attic and 8 bays. Paired casements with diamond leading, those to ground floor with gauged brick heads, those to upper floor set above the eaves in gables with moulded wooden bargeboards. These gables, except at centre, alternate with smaller gables over single leaded casements. 2-panel doors below in wooden frames with gauged brick heads. Porch projections between bays 3 and 4 and bays 5 and 6 have shaped gables, blind painted windows to attics, and band courses raised to front over semi-circular brick arches with moulded edges and gauged key and impost blocks. Each porch has shaped plaque with raised inscription tablet in scrolled surround and a coat-of-arms with flanking cornucopiae. Side walls of porches have similar arches with wooden shutters, and leaded oval windows above. Gable walls of range have segmental-headed openings, those to right gable blind, those to left with barred wooden casements. Rear is similar to front but with 12 small even gables, one segmental. Small symmetrical outbuildings are important parts of composition and have coved segmental gables to front. Side walls have some timber framing but are partly rebuilt in brick.					
1311529	Shepherd's Cottage	Small squatter cottage. Circa 1800, renovated late 1970s. Built of mud, timber and brick, all colourwashed Thatch roof, brick chimney to left. One storey and attic, 2 small bays. Ground floor has leaded casements, 2-light to left, single light to right, and central C20 door in thatched porch, 2-light barred wooden attic casement in right gable over rustic thatched shelter. C20 single storey extension of colourwashed brick with slate roof is attached to left.	478068	221020	Post-Medieval	Grade II Listed Building	Medium
1311551	The Old Rectory	House. Early C19 alterations to older building. W. front is of red brick with coursed rubble stone plinth, hipped slate roof and brick chimney to right. Remainder is of coursed rubble stone, part with brick quoins and window surrounds, and has tiled roofs. 2 storeys. W. front has 4 bays of early C19 3-pane sash windows with fine gauged brick heads, the 2 left windows in a shallow 2-storey bowed projection. 3rd bay has grained 6-panel door with rectangular fanlight and altered surround. Long N. front of 4 irregular bays, the centre bays having canted projections with half-hipped roofs and later sash windows. Room behind right projection has wooden	478237	221325	Post-Medieval	Grade II Listed Building	Medium

		panelling. N.W. room, with bowed projection, has early C19 plaster cornice and wooden fireplace of uncertain date. Altered staircase with wooden rails and turned newel posts.					
1311556	Manor House	House. C17, altered C18 and early C19. Timber frame with brick infill exposed to rear and in upper right-hand gable, remainder re-cased in brick C18-C19. Left gable is of chequer brick with band courses to first and second floors and above attic window. C20 tile roof, half-hipped to right. Rebuilt central brick chimney with grouped shafts. T-plan, the rear wing with old tile roof and another central brick chimney. 2 storeys and attic, 2 bays in each wing. Front has 3-light leaded casements to both bays and to ground floor centre in line with chimney. Similar 2 and 3-light casements to gables. Entries in lean-to extensions in rear angles, that to left with wide board door and conservatory. Sun fire insurance plaque on rear wing. Interior has early C17 ceiling beams, timbering and fireplace.	478144	221260	Post-Medieval	Grade II Listed Building	Medium
1319247	Gatepiers 60 Metres To North West Of Doddershall House.	Pair of gate piers. Early C19. Rendered brick. Square plan piers with moulded cornices and ball finials. Included for group value.	471966	220163	Post-Medieval	Grade II Listed Building	Medium
1319248	9, The Green	Cottage. C17-early C18, altered. Timber frame with brick infill, right bay and ground floor of left bay rebuilt in brick. Old tile roof, rebuilt brick chimney to left. One storey and attic, 2 bays. C20 wooden casements: 4-light bow window to left, 3-light casement to right, 2 paired casements in eaves-line dormers with catslide roofs. Central C20 door. Extensions to rear. More timber framing visible inside.	474626	220136	Post-Medieval	Grade II Listed Building	Medium
1319249	Cross Farmhouse	House. Dated 1723 on carved stone plaque with Dormer family coat-of-Arms. Chequer brick with vitreous headers, red brick quoins and window surrounds, and moulded plinth, first floor band course and eaves. Old tile roof, brick coped gables, partly rebuilt brick chimney between right bays. Double pile plan, the narrow rear range with 3 hipped roof spurs at right-angles to front range. 2 storeys and attic, 5 bays. 3-pane sash windows in flush wooden frames. 3 C20 hipped dormers with paired leaded casements, blocked cellar window to right. Centre bay has blind window panel	474646	220171	Post-Medieval	Grade II* Listed Building	High

		over 9-panelled door in Wooden frame. All openings to main floors have segmental heads. Similar sashes or blind windows to sides, the left gable with oval window to attic, and Regency ironwork brought from Aylesbury. Small C20 brick extensions with entry and garages at N.W. corner. House said to have been built by Robert Dormer, J.P., for one of his daughters.					
1319250	18 And 19, The Green	Pair of cottages. Late C17-early C18, altered. Timber frame with colourwashed brick infill to rear, remainder rendered and colourwashed, probably mud and rubble. Corrugated iron over thatch roof, hipped to left, half-hipped to right. Central brick chimney. One storey and attic, 2 bays. Ground floor has paired leaded casements and board doors to left and right. Attic has one similar casement in dormer.	474704	220150	Post-Medieval	Grade II Listed Building	Medium
1319251	39, The Green	House. C17, altered C18 and later. Coursed rubble stone plinth, timber frame with diagonal braces and brick infill, raised eaves. Right gable rebuilt in red brick. Old tile roof, half-hipped to right. Rebuilt brick chimney to left. 2 storeys and attic, one bay. Leaded casements, 3-light to ground floor of front, 2-light above. Gable has board door and single light to ground floor, and 2-light casement to attic. Rear has old 3-light casement with diamond leading and moulded mullions, and lean-to below. Interior: stop-chamfered spine beam; fireplace with dressed stone jambs and stop-chamfered cambered wooden lintel.	474700	220075	Post-Medieval	Grade II Listed Building	Medium
1319252	35, Lower Street	House. Late C16-early C17, altered. Colourwashed roughcast over timber frame, C20 tile roof, C20 brick chimney to near gable. 2 storeys, 2 bays, gabled to street. Barred wooden casements: 2 single lights to ground floor and 2 paired casements to first floor of gable end. Door at near end of left wall in wooden architrave frame. C20 lean-to to remainder of left side. Interior shows heavy timbering with slightly curved braces and wind-braces. Chamfered spine beam in main ground floor room, fireplace totally altered.	474443	220027	Post-Medieval	Grade II Listed Building	Medium
1319260	The Black Boy	Public house. C17, altered and extended. Timber frame with brick infill, partly rebuilt in brick. Right gable has whitewashed rubble stone lower storey with jettied floor above. Half-hipped old tile roofs, brick chimney to left of tall centre bay. L-plan with 2-storey bay to	478209	221378	Post-Medieval	Grade II Listed Building	Medium

		centre of N. front, single storey C18 bay to left, and cross wing of one storey and an attic to right. Centre bay has 3-light leaded casements and C20 door to left. Gabled timber porch with semi-circular arch to front and moulded frame. Left bay has 3-light barred wooden casement. Right bay has 3-light leaded casement with segmental head. C19 brick extension to far end of cross wing, C20 extension in rear angle. Interior has stop- chamfered spine beams.					
1319261	Garden Cottages	Pair of houses. No.2 is mid-late C18, altered. Red and vitreous brick with red brick quoins and window surrounds, first floor band course and moulded eaves, the right end rebuilt C20. Old tile roof, large C18 brick chimney to left, smaller chimney to right. 2 storeys, 2 bays. Altered sash windows, that to ground floor left with segmental head. Ground floor right has C20 bay window with hipped tile roof continued to form hood over central door. Door is 4-panelled and has rectangular fanlight and blind window panel above. Lower range attached to left, No.1., is of coursed rubble stone and brick, the left bay having C18 brick with band course to ground floor and C19 brick above. C20 tile roof, brick chimney to left. 2 storeys, 2 bays of irregular barred wooden casements, door with flat hood on shaped wooden brackets. C19-C20 single storey extension to left.	478398	221306	Post-Medieval	Grade II Listed Building	Medium
1319262	Woodlands	House. Mid C18. Chequer brick with pale vitreous headers and projecting plinth. Old tile roof, brick chimneys between left bays and to right. 2 storeys and cellar, 3 bays. C20 3-light barred metal casements, those to ground floor with segmental heads. Cellar opening in left bay. 4-panelled door in architrave frame between right bays, C20 gabled brick porch. Additional bay to left is of rubble stone with more steeply pitched roof, C20 door, and garage attached to front left corner.	478202	221353	Post-Medieval	Grade II Listed Building	Medium
1319271/M BC17232	Dry Leys Farmhouse	House. Early C18. Red and vitreous brick with red brick quoins and window surrounds, moulded brick plinth and eaves, and first floor band course. Old tile roof, flanking brick chimneys, the left partly rebuilt. 2 span roof with narrow valley between. 2 storeys, cellar and attic, 5 bays. 3-pane sashes, those to ground floor with segmental heads. Cellar window to right. Central 4-panelled door with rectangular fanlight and lean-to hood obscuring carved stone armorial panel. Attic casements to gables. Rear more irregular with	473104	221882	Post-Medieval	Grade II Listed Building	Medium

casements, sashes, central staircase window and one hipped dormer. Said to have been built by Robert Dormer for one of his daughters.

1319272	Numbers 15 And 19 (Pyghtles Cottage)	Two houses. C17 and early C18. Timber frame with colourwashed brick infill, gable to street rebuilt in brick. Thatch roof, half-hipped to right. Brick chimneys between outer bays, that to right of thin brick, C20 chimney to front right. 1½ storeys, 4 bays, Irregular C20 leaded casements, 2 to first floor in thatch. C20 door in second bay. Lean-to extension of colourwashed render with tiled roof to front and side of right bay has similar casements and door.	474762	220025	Post-Medieval	Grade II Listed Building	Medium
1319273	Townsend Farmhouse	House. Circa 1730s refronting and extension to the left by one bay of a c1600 timberframed building. Red and vitreous brick with band courses and red brick quoins and window surrounds. Left bays have moulded brick plinth and eaves, right bay with coursed rubble stone plinth. Old tile roof, brick chimneys to rear. Main part of 2 storeys and an attic with 2 slightly asymmetrical cross-wings, each of one bay, flanking narrow centre bay.	474209	220194	Post-Medieval	Grade II* Listed Building	High
1319274	Glebe Cottage	House. C17, altered. Timber frame with colourwashed brick infill and blackened rubble stone plinth. Left side wall is of colourwashed brick. Thatched roof over 3 bays to right, hipped old tile roof over left bay. Flanking and central brick chimneys, that to centre partly of thin brick, that to right external with coursed rubble stone base. 2 storeys, 4 bays. C20 leaded casements, 3-light to ground floor, remainder 2-light. Board door to right of centre. House now incorporates former barn at right-angles to rear of right bay.	474575	220172	Post-Medieval	Grade II Listed Building	Medium
1319282	Manor Farmhouse	House. N.E. wing is dated 1657 on plaque but has been altered and extended to S.W. C18 and later. Render over stone and brick, old tile roofs. Irregular L-plan. N.E. wing has flanking chimneys of thin brick, each having 2 square shafts set diagonally with moulded caps and bases. 2 storeys, attic and cellars, 3 bays. Plinth. Central bay gabled with flanking battered buttresses. Left bay is blank; centre bay has barred and glazed double doors in sash window to first floor and small single wooden casement to attic. Painted date plaque below upper window has rendered brick frame of tapering shafts, pediment and moulded base. Right bay has 3-light transomed	477681	220321	Post-Medieval	Grade II Listed Building	Medium

wooden casement to ground floor, and C20 sash window above. Sash windows to left gable and rear. S.W. wing has rebuilt brick chimney to gable, and is also of 2 storeys with attic and cellar. 2 bays of irregular sash windows, barred wooden window to cellar, paired barred wooden casement in gabled dormer. Half-glazed door in C20 half-timbered porch in angle with N.E. wing. Lower 2-storey extension of 2 bays to S.W. Lower wing at right-angles to rear (N.W.) was formerly cow-sheds, incorporated into house C20.

1319283	25, Church Street	House. Late C18-early C19, altered. Brick, partly chequered, the ground floor whitewashed to front and left. Part with moulded plinth, part with first floor band course, shaped wooden eaves cornice to front. Old tile roof. 2 storeys and attic, 3 narrow bays to front. 4-pane sash windows, door to left with moulded stone steps. Right side has 2 bays, the far bay with segmental-headed openings and moulded brick eaves. 2 gabled bays to left side.	474870	220202	Post-Medieval	Grade II Listed Building	Medium
1319284	2, Church Street	Small House. C15 and early C16, altered C19 and later. Timber frame with curved braces to front elevation, brick nogging mostly C19, some herringbone pattern. One rendered panel to front of stack. Rubble stone plinth, stack of slender red bricks to right bay, tiled roof. Three bays, two storeys and cellar, upper floor jettied to road with fine moulded bressumer. Ground floor has a small paned paired timber casement and a single fixed leaded light in a metal frame. First floor has C20 paired leaded casements. Door to left bay in doorcase with four centred head with carved spandrels. Right gable shows part of roof truss with arched braced collar. Rear timber casements are C20. Interior. Three bay frame. Ground floor chamfered beams with double stops on hefty braces. Fireplace bressumer partly papered over. The upper floor formed a single chamber. First floor inserted ceiling, replaced and strengthened 2003-4, cutting into previously truncated tie beams on knee braces, possibly a false hammerbeam roof. Very fine roof with three open trusses with large arch braces from collar to rafters. Central truss smoke blackened although wattle and daub panel above is not. Curved tension braces and arched wind braces to the purlins.	474713	220158	Medieval	Grade II Listed Building	Medium

1319285	Church Of St Mary And The Holy Cross	Parish church. C14 nave, aisles and chancel; late C15 W. tower, clerestory, N. chapel and S. porch. N. aisle and S. porch rebuilt and remainder restored 1877. C19 N. vestry. Coursed rubble stone, tiled roofs to nave and chancel, lead roofs to aisles.	474999	220155	Medieval	Grade I Listed Building	Medium
1319286	Granary At Denham Lodge	Small granary. Early C19. Timber frame and weatherboard on staddle stones. Old tile pyramid roof. Board door to south. Included for group value.	475373	220487	Post-Medieval	Grade II Listed Building	Medium
1332770	The Swan Inn	Public house. C17-early C18, altered. Colourwashed roughcast, thatched roof, brick chimney to right, roughcast chimney to left. 1½ storeys, 3 bays. Barred wooden casements: 5-light canted bay window to left, 3- light casement to ground floor right, 3 2-light casements in thatch. Central C20 door with flat wooden hood on brackets. Lower bay to left is of colourwashed rubble stone with brick lean-to in front. Single storey C20 extension set back to right is of colourwashed brick with slate roof.	468378	220634	Post-Medieval	Grade II Listed Building	Medium
1332771	Grendon Cottage	House. C17 and early C18. Timber frame with whitewashed brick and plaster infill, rubble stone plinth, thatched roof with half hip to right. Central chimney with one square shaft and one rectangular shaft of thin brick. Taller C17 bay to left is of 1½ storeys and has 3-light casements, that to ground floor with C20 leading and board hood, upper window with glazing bars and thatch eyebrow. Lobby entry to right with board door. Lower bay to right is of one storey and an attic and has similar ground floor casement and slighter framing. Flanking narrow extensions with hipped thatch roofs.	468158	220702	Post-Medieval	Grade II Listed Building	Medium
1332772	Coombe Farmhouse	House. C17, altered. Right bays have timber frame with whitewashed render over brick infill. Left bay is similarly rendered. Old tile roof, large brick chimney between left bays, external chimney to left. One storey and attic, 3 bays. 2 and 3-light wooden casements, those to first floor in gabled eaves-line dormers. Board door to right of left bay. Another entry in lean-to to right. C19 2-storey extension with slate roof to rear of right bay. Later single storey small extension to rear of lean-to.	468789	220181	Post-Medieval	Grade II Listed Building	Medium

1332800	Church Of St Mary	Parish church. 1867. By G.E. Street. Coursed rubble stone exterior with stone dressings, coped gables and tiled roofs. Interior lined with pale red and yellow brick but has some stone dressings. Nave, short narrow aisles, chancel. Austere in style with plate tracery. Nave has moulded sill course and uncusped traceried windows, 3-light to W., 2 bays of 2-light windows to N. and S. Central bellcote with pyramidal tile roof and cast iron cross. One clerestory window to S. with 4-light cusped wooden window in gabled dormer. S. door with chamfered arch in gabled porch. S. aisle to east of porch has 2 small quatrefoil windows and 2-light window with cusped tracery at E. end. Similar 2-light windows to E. and W. ends of N. aisle. Both aisles share same roof pitch as nave. Chancel has off-set buttresses and windows with cusped tracery, 2-light to S., 3-light to E. Interior has unmoulded arches on circular piers with simply shaped caps, the N. arcade of 3 bays, the S. arcade of 2. Chancel arch similar but with attached shafts. Contemporary fittings with stone pulpit, low stone screen, and octofoil font. Mid C20 glass in E. window.	471674	217141	Post-Medieval	Grade II* Listed Building	High
1332801	Newhouse Farmhouse	House. Late C18 front range with fragments of earlier building incorporated in rear ranges. Red and vitreous brick, the right gable with diagonal lines of vitreous headers. Moulded brick plinth and eaves, tiled roof, flanking brick chimneys. 2 storeys and attic, 2 bays. Late C19-C20 3-light barred wooden casements with transoms, those to ground floor with segmental heads. 2 hipped dormers with paired wooden casements and moulded cornices. Central flush panelled door with rectangular fanlight and segmental head, blocked window above. Flanking lean-to extensions, that to left with blocked segmental-headed doorway. Range at right-angles to rear of right bay has C19 brick facing, central chimney and entry to rear. Gabled bay to rear of left bay has old leaded casements.	471280	217875	Post-Medieval	Grade II Listed Building	Medium
1332808	Church Of St Leonard	Parish church. C12-C13 nave with early C13 S. door and C15 alterations, late 013-early C14 chancel, C15 W. tower, restored 1866 and 1902. Coursed rubble stone, the nave partly with slobbered rendering. Lead roofs to nave and tower, tiled chancel.	467720	220985	Medieval	Grade II* Listed Building	High

1332809	Primrose Cottage	House. Late C18-early C19. Rough whitewashed render over cob, thatched roof, external brick chimney to left, another brick chimney to centre. 1½ storeys, 3 main bays with half bay between left bays. Paired leaded casements, those to upper floor in thatch eyebrows. Half bay has single leaded light to ground floor, small 2-light wooden casement just below eaves, and board door. C20 barred and glazed door between right bays. At corners and over board door are plaster motifs of Tudor rose and grotesque heads. C20 conservatory to right, lean-to to rear.	469218	219173	Post-Medieval	Grade II Listed Building	Medium
1390836	Platform, Platform Buildings And Bridge At Quainton Road Railway Station	Platform buildings and connecting bridge. 1897 for the Metropolitan Railway.	473826	218979	Post-Medieval	Grade II Listed Building	Medium
1403965	E Test Stand, Control Room And Ancillary Structures, Former Royal Ordnance Establishment, Westcott	E site, a test site for liquid propellant engines at the Westcott former Royal Ordnance Establishment, of mid-late 1950s date and modified in the mid-1970s to '80s, is listed at Grade II for the following principal reasons: * Fabric: a test-site which retains its test-stand with plume channel, detached control room/electronics block (with surviving control panel), pump house, plunge bath (for the treatment of chemical spills) and large angled blast wall; * Rarity: although one of the second generation test stands at Westcott, its 1950s date makes this nationally rare with only a handful of examples surviving; * Technological significance: a test-stand designed specifically for the Blue Steel missile programme (a stand-off missile designed to extend the life of the nuclear deterrent V-Force by providing a missile that could be launched from an aircraft about 100 miles from its target.) It was subsequently modified for the research and the development of the top-secret Chevaline (a more mobile and sophisticated successor to the Polaris missile) development programme. The test rig for the latter survives inside the firing bay; * Group value: with other earlier liquid test-stands and later solid stands. Westcott is the most significant site nationally for rocket propulsion research and development and the test stands collectively express through their form the technological advances in this field in the second half of the C20.	471016	216956	Modern	Grade II Listed Building	Medium

1403974	P Test-Stands And Support Structures, Former Royal Ordnance Establishment, Westcott	P-site, liquid propellant test stands and ancillary structures at SP7099717449, designed in 1948 with later alterations and additions.	471023	217428	Modern	Grade II Listed Building	Medium
1412840	Grendon Underwood War Memorial	War memorial. Erected in 1921. Additional inscription added after World War II.	468282	220656	Modern	Grade II Listed Building	Medium
1427659	Swanbourne War Memorial	First World War memorial, 1920, with later additions for the Second World War.	480101	227254	Modern	Grade II Listed Building	Medium
1434754	Foxgloves	Foxgloves, an early-C19 cottage, is listed at Grade II, for the following principal reasons: * Architectural interest: a humble early-C19 vernacular cottage in which the historic development is legible and the proportion of survival good; * Regional distinctiveness: incorporating building materials specific to the locality, and building methods reflective of the status of the dwelling; * Historic interest: a rare survival of a building with a domestic and agricultural function, providing evidence of the early-C19 rural economy in the Aylesbury Vale.	478649	221592	Post-Medieval	Grade II Listed Building	Medium
1438054	Granborough War Memorial	Granborough War Memorial, designed by F E Howard and unveiled on 24 July 1921, is listed at Grade II for the following principal reasons: * Historic interest: as an eloquent witness to the tragic impact of world events on the local community, and the sacrifice it made in the First World War; * Architectural interest: an elegant Latin cross with carved decorative details; * Group value: with the Church of St John the Baptist (Grade II*).	476760	225011	Modern	Grade II Listed Building	Medium
1441812	Winslow War Memorial	First World War memorial, unveiled on 7 November 1920, with later additions for the Second World War, Malayan Emergency and Falklands Conflict. Winslow War Memorial, which stands in a prominent location on Winslow High Street, is listed at Grade II for the following principal reasons: * Historic interest: as an eloquent	476979	227650	Modern	Grade II Listed Building	Medium

		witness to the tragic impact of world events on this community, and the sacrifices it has made in the conflicts of the C20; * Design: as a simple yet poignant Gothic cross; * Group value: with a number of listed buildings, including the Church of St Laurence, listed at Grade II*.					
DBC8486	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Granborough	Earthworks. Area 5.68ha.	476148	225307	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8496	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Fulbrook Township	Earthworks. High importance. Area 6.62ha. Additional areas identified in 2012 TTP2 survey.	475302	224119	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8504	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Granborough	Earthworks. Area 2.90ha.	475765	224037	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8505	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Granborough	Earthworks. Area 4.96ha.	475615	224261	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8506	Ridge And Furrow Of Medieval To Post-Medieval Open Field	Earthworks. Area 4.99ha.	475765	224367	Medieval to Post-Medieval	Archaeological Notification Area	Low

System In
Granborough

DBC8507	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Fulbrook Township	Earthworks. High importance. Area 6.9ha. Additional areas identified in 2012 TTP2 survey.	475158	223935	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8509	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Shipton Lee Township	Earthworks. High importance. Area 42.99ha. Additional area identified in 2012 TTP2 survey.	473743	221190	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8510	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Shipton Lee Township	Earthworks. High importance. Area 2.76ha.	473440	221676	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8511	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Shipton Lee Township	Earthworks. High importance. Area 59.04ha.	472908	221734	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC8512	Ridge And Furrow Of Medieval To Post-Medieval Open Field	Earthworks. High importance. Area 4.81ha.	472236	221405	Medieval to Post-Medieval	Archaeological Notification Area	Low

System In Shipton Lee Township								
DBC8513	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Hogshaw Township	Earthworks. High importance. Area 10.06ha.	474075	222991	Medieval to Post-Medieval	Archaeological Notification Area	Low	
DBC8514	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Hogshaw Township	Earthworks. High importance. Area 9.87ha.	473758	223451	Medieval to Post-Medieval	Archaeological Notification Area	Low	
DBC8535	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Granborough	Earthworks. Area 1.74ha.	476540	225772	Medieval to Post-Medieval	Archaeological Notification Area	Low	
DBC8536	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Granborough	Earthworks. Area 6.12ha.	476330	224811	Medieval to Post-Medieval	Archaeological Notification Area	Low	
DBC8537	Ridge And Furrow Of Medieval To Post-Medieval Open Field	Earthworks. Area 0.50ha.	476266	225071	Medieval to Post-Medieval	Archaeological Notification Area	Low	

System In
Granborough

DBC8591	Concentration Of Roman Finds Found Whilst Field Walking	Area 7.69ha.	475200	224861	Roman	Archaeologica I Notification Area	Low
DBC8714	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Shipton Lee Township	Earthworks. High importance. Area 18.49ha. Additional areas identified in 2012 TTP2 survey.	473437	222072	Medieval to Post-Medieval	Archaeologica I Notification Area	Low
DBC8715	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Fulbrook Township	Earthworks. High importance. Area 1.50ha. Additional areas identified in 2012 TTP2 survey.	475054	223405	Medieval to Post-Medieval	Archaeologica I Notification Area	Low
DBC8743	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Hogshaw Township	Earthworks. Area 21.71ha.	473234	222562	Medieval to Post-Medieval	Archaeologica I Notification Area	Low
DBC8757	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Charndon Parish	Earthworks. Area 18.08ha.	468389	223447	Medieval to Post-Medieval	Archaeologica I Notification Area	Low

DBC8884	Earthworks Of Medieval Moated Grange Of Biggin	Captured in GIS 1994. Earthworks. High importance. Area 7.73ha.	476293	226169	Medieval	Archaeologica I Notification Area	Medium- Low
DBC8890	Earthworks Of Shrunken Medieval Village At East Claydon	Captured in GIS 1994. Earthworks. Area 5.32ha.	473543	225665	Medieval	Archaeologica I Notification Area	Medium- Low
DBC8901	Post-Medieval Livestock Enclosure Or Pound	Captured in GIS 1994. Area 2.18ha.	472436	223473	Post- Medieval	Archaeologica I Notification Area	Low
DBC8911	Medieval Moated Site And Settlement Earthworks Of Hogshaw	Captured in GIS 1994. Earthworks. High importance. Scheduled monument 1405586. Area 10.41ha.	473799	222457	Medieval	Archaeologica I Notification Area	Medium- Low
DBC8926	Medieval Pond Bay At Shipton Lee	Captured in GIS 1994. Earthwork. Area 2.23ha.	472367	221486	Medieval	Archaeologica I Notification Area	Medium- Low
DBC8933	Medieval Deserted Settlement Of Shipton Lee.	Captured in GIS 1994. Earthworks. High importance. Area 15.00ha. Additional area identified in 2012 TTP2 survey.	472974	221018	Medieval	Archaeologica I Notification Area	Medium- Low
DBC8940	Doddershall Park And Earthworks Of Deserted Medieval Village And Manor Of Doddershall	Captured in GIS 1994. Earthworks. High importance. Area 58.82ha.	471937	220181	Medieval	Archaeologica I Notification Area	Medium- Low

DBC9376	Post-Medieval Decoy Pond In Decoypond Wood	Earthworks. High importance. Area 2.97ha.	469472	223985	Post-Medieval	Archaeologica I Notification Area	Low
DBC9459	18th And 19th Century Landscaped Park At Claydon House	High importance. Area 109.61ha.	471881	225393	Post-Medieval	Archaeologica I Notification Area	Low
DBC9483	Roman Road Between Akeman Street And Thornborough	Area 11.87ha.	475527	223905	Roman	Archaeologica I Notification Area	Medium-Low
DBC9507	Shrunken Medieval Village Earthworks At Granborough	Earthworks. High importance. Area 2.69ha.	476474	225114	Medieval	Archaeologica I Notification Area	Medium-Low
DBC9626	Roman Road Between Akeman Street And Thornborough	Area 13.73ha.	474874	226308	Roman	Archaeologica I Notification Area	Medium-Low
DBC9699	Medieval Parish Church Of St Mary, East Claydon	Area 0.34ha.	474009	225533	Medieval	Archaeologica I Notification Area	Medium-Low
DBC9891	Earthworks Of Shrunken Medieval Village At East Claydon	Earthworks. Area 7.95ha.	473887	225784	Medieval	Archaeologica I Notification Area	Medium-Low
DBC10086	Ridge And Furrow Of Medieval To Post-Medieval Open Field	Earthworks. High importance. Area 1.19ha. Additional area identified in 2012 TTP2 survey.	474057	222533	Medieval to Post-Medieval	Archaeologica I Notification Area	Low

System In
Hogshaw
Township

DBC10087	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Hogshaw Township	Earthworks. High importance. Area 3.01ha. Additional area identified in 2012 TTP2 survey.	474325	222855	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC10088	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Hogshaw Township	Earthworks. High importance. Area 3.90ha. Additional area identified in 2012 TTP2 survey.	473863	222989	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC10089	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Fulbrook Township	Earthworks. High importance. Area 1.31ha. Additional area identified in 2012 TTP2 survey.	474983	223586	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC10092	Ridge And Furrow Of Medieval To Post-Medieval Open Field System In Shipton Lee Township	Earthworks. High importance. Area 7.94ha. Additional area identified in 2012 TTP2 survey.	472000	222564	Medieval to Post-Medieval	Archaeological Notification Area	Low
DBC10398	Open Fields, Township Of Fulbrook	Ridge and furrow of medieval to post-medieval open field system in Fulbrook township on aerial photographs Block of surviving ridge and furrow of the township of Fulbrook,	475163	224002	Medieval to Post-Medieval	Locally Listed	Low

		enclosure (non-parliamentary) in 1486. Total acreage (combined with stats. from Hogshaw township) (1995): 25% survival - 306 acres; (1999): 26% survival - 310 acres. Assessment of ridge and furrow made for the Monuments Protection Programme (MPP) with further details of documentary and cartographic sources .					
DBC10401	Open Fields, Shipton Lee Township	Ridge and furrow of medieval to post-medieval open field system in Shipton Lee township Blocks of surviving ridge and furrow of the township of Shipton Lee, enclosed in 1840 (Quainton). Total acreage (figures include stats. for Shipton Lee and Denham townships combined) (1995): 26% survival - 700 acres; (1999): 23% survival - 600 acres. Assessment made for the Monuments Protection Programme (MPP), with details of documentary and cartographic sources.	473027	221681	Medieval to Post-Medieval	Locally Listed	Low
DBC10416	Shipton Lee	Historical records of medieval settlement deserted in the sixteenth to seventeenth centuries, partly surviving as earthworks.	472836	221206	Medieval	Locally Listed	Medium
DBC10793	100m S Of Rookery Farm	Earthworks of shrunken medieval village recorded in field survey	476412	225116	Medieval	Locally Listed	Medium
DBC11014	Hazlebach (Formerly Station Master's House) And Bridge	STATION MASTER'S HOUSE: Built of local Calvert red bricks in stretcher bond, with plain string course ledge made from one row or stretcher bond, one of header bond. Replaced windows, but original openings with red-brick header bond arched lintels and buff stone sills. No development other than small conservatory on the back. Original chimneys and unusual arched doorway made of 3 arches of headers, with unusual arched door (unsure if original...probably not as condition too good.) Tiled roof with plain barge boards and rafters peeping under. BRIDGE: The station was a single island platform located below the road overbridge from the centre of which a staircase led down to the platform: the centre pillars of the bridge were left hollow to provide lamp rooms. The design was chosen as it would allow the track to be quadrupled if ever required. The bridge	468823	224742	Post-Medieval	Locally Listed	Low

		is made of red brick with buff, regular shaped, edging stones, with two square openings to allow possibility of a double track, and a middle arch for platform and station access/use. Group Value: Part of the Railway Station, built for Calvert Brickworks, that sat underneath the road bridge. Associated with brick maker's cottages opposite.					
MBC359	S.Of Finemere Wood	Possible medieval metalwork found in groundworks	472100	221480	Medieval	Non-Designated Heritage Asset	Negligible
MBC360	Middle Farm, Shipton Lee	Semi-circular bank recorded in field survey possibly cut away by ponds on one side, unknown date	472240	221485	Medieval	Non-Designated Heritage Asset	Low
MBC796	S Of Sheephouse Wood	Low earthwork cut by stream known from aerial photographs and field survey, of unknown date	470000	222670	Unknown	Non-Designated Heritage Asset	Low
MBC1098	Back Of Whitehouse Farm	Partly destroyed medieval moat seen in field survey	473890	225640	Medieval	Non-Designated Heritage Asset	Low
MBC1099	Back Of Whitehouse Farm	Possible medieval house platforms seen in aerial photographs and in field survey	473930	225650	Medieval	Non-Designated Heritage Asset	Low
MBC1102	250m Nw Of St Mary's Church	Possibly medieval house platform seen in field survey but now not visible	473806	225781	Medieval	Non-Designated Heritage Asset	Low
MBC1130	Hogshaw	Historical records of medieval Hospitallers commandery	473771	222523	Medieval	Non-Designated	Low

							Heritage Asset	
MBC1131	Hogshaw	Historical records of thirteenth to fourteenth century dovecote	473810	222460	Medieval	Non-Designated Heritage Asset	Low	
MBC1132	Hogshaw	Historical record of medieval windmill	473810	222460	Medieval	Non-Designated Heritage Asset	Low	
MBC1133	St John Baptist's Church	Historical records of probably medieval church partially destroyed in the Civil War and demolished in the eighteenth century	473729	222492	Medieval	Non-Designated Heritage Asset	Low	
MBC1134	Hogshaw	Medieval font from church surviving in various guises	473750	222450	Medieval	Non-Designated Heritage Asset	Low	
MBC1135	Hogshaw	Medieval double-moated site seen in field survey	473810	222460	Medieval	Non-Designated Heritage Asset	Low	
MBC2330	Finemere Wood	Historical record of twelfth century hermitage	471900	221900	Medieval	Non-Designated Heritage Asset	Low	
MBC2331	Finemere Wood	Historical record of medieval chapel	471900	221900	Medieval	Non-Designated Heritage Asset	Low	

MBC2423	Biggin Manor	Historical records of medieval to post-medieval manor of Biggin Manor. Earthworks visible on aerial photographs and remote sensing data	476250	226150	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC2424	C400m Nw Of Millknob Hill	Historical records of medieval cell or grange	476270	226185	Medieval	Non-Designated Heritage Asset	Low
MBC2425	C400m Nw Of Millknob Hill	Historical records of medieval chapel, demolished in the seventeenth century	476270	226185	Medieval	Non-Designated Heritage Asset	Low
MBC2426	C400m Nw Of Millknob Hill	Earthworks of possible deserted medieval village	476270	226185	Medieval	Non-Designated Heritage Asset	Low
MBC2427	C400m Nw Of Millknob Hill	Possible medieval moat recorded in field survey	476314	226230	Medieval	Non-Designated Heritage Asset	Low
MBC2428	C400m Nw Of Millknob Hill	Possible Civil War earthworks recorded in field survey	476174	226055	Post-Medieval	Non-Designated Heritage Asset	Low
MBC2442	Shipton Lee	Historical records of medieval settlement deserted in the sixteenth to seventeenth centuries, partly surviving as earthworks.	473030	220984	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC2443	Shipton Lee	Historical records of medieval grange	472800	221300	Medieval	Non-Designated	Low

							Heritage Asset
MBC2444	Sipton Lee	Historical records to medieval and post-medieval chapel	472800	221300	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC2445	Sipton Lee	Historical record of fourteenth century chantry chapel	472800	221300	Medieval	Non-Designated Heritage Asset	Low
MBC3131	Verney Farm, W Of Village	Shrunken Medieval village earthworks at East Claydon	473537	225622	Medieval	Non-Designated Heritage Asset	Low
MBC3132	Verney Farm, W Of Village	Possibly medieval hollow-way seen in field survey and on aerial photographs	473537	225622	Medieval	Non-Designated Heritage Asset	Low
MBC3133	Verney Farm, W Of Village	Possibly medieval house platforms seen in field survey and aerial photographs	473537	225622	Medieval	Non-Designated Heritage Asset	Low
MBC4757	100m S Of Rookery Farm, Granborough	Earthworks of shrunken medieval village recorded in field survey and in aerial mapping project	476562	225087	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC5966	(Middle) Claydon Manor	Historical records of medieval to post-medieval manor	471930	225330	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low

MBC6013	Margary Road 162	Roman road between Akeman Street at Fleet Marston and Thornborough, with possible extension to the Alchester-Towcester road.	475886	222540	Roman	Non-Designated Heritage Asset	Low
MBC7048	Parish	Unlocated site of a possible medieval cell, recorded as a single dubious documentary reference	474500	223000	Medieval	Non-Designated Heritage Asset	Low
MBC7127	Botolph Claydon	Medieval house platforms seen on aerial photographs	473275	224590	Medieval	Non-Designated Heritage Asset	Low
MBC7128	Botolph Claydon	Medieval house platforms seen on aerial photographs	473285	224598	Medieval	Non-Designated Heritage Asset	Low
MBC7129	Botyl Well, Botolph Claydon	Possible medieval well recorded in field survey	473159	224440	Medieval	Non-Designated Heritage Asset	Low
MBC7130	Botyl Well, Botolph Claydon	Medieval house platforms seen on aerial photographs	473165	224450	Medieval	Non-Designated Heritage Asset	Low
MBC7248	Middle Claydon	Historical records of levelling of medieval and post-medieval settlement in the eighteenth century	472000	225300	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC7349	East Claydon Manor	Historical records of medieval to post-medieval manor	473950	225620	Medieval to Post-Medieval	Non-Designated	Low

						Heritage Asset	
MBC7350	White House Farmhouse	Sixteenth to seventeenth century timber-framed and jettied manor house with later alterations	473950	225615	Post-Medieval	Non-Designated Heritage Asset	Low
MBC7445	East Claydon	Background information on East Claydon parish.	473570	225070	Unknown	Non-Designated Heritage Asset	Low
MBC7446	Edgcott	General background information about Edgcott parish	467281	222167	Unknown	Non-Designated Heritage Asset	Low
MBC7459	Granborough	General background information on Granborough parish.	476827	225201	Unknown	Non-Designated Heritage Asset	Low
MBC7472	Grendon Underwood	General background information about Grendon Underwood parish.	468685	220938	Unknown	Non-Designated Heritage Asset	Low
MBC7490	Hogshaw	General background information on Hogshaw parish.	474185	223260	Unknown	Non-Designated Heritage Asset	Low
MBC7527	Middle Claydon	General background information about Middle Claydon parish	471822	225222	Unknown	Non-Designated Heritage Asset	Low

MBC7536	North Marston	General background information on North Marston parish.	477189	222755	Unknown	Non-Designated Heritage Asset	Low
MBC7554	Quainton	General background information on Quainton parish	473390	220378	Unknown	Non-Designated Heritage Asset	Low
MBC7570	Steeple Claydon	General background information for Steeple Claydon parish.	470177	226789	Unknown	Non-Designated Heritage Asset	Low
MBC7587	Twyford	General background information on Twyford parish.	466440	226018	Unknown	Non-Designated Heritage Asset	Low
MBC7607	Winslow Parish	General background information on Winslow parish.	476909	227551	Unknown	Non-Designated Heritage Asset	Low
MBC7906	700m Nw Of Coppice Lowhill	Possibly post-medieval enclosure, possibly a pound, visible as earthworks on aerial photograph	472425	223465	Post-Medieval	Non-Designated Heritage Asset	Low
MBC7907	700m Nw Of Coppice Lowhill	Possible post-medieval house platforms seen in field survey and on aerial photographs	472427	223466	Post-Medieval	Non-Designated Heritage Asset	Low
MBC7908	700m Nw Of Coppice Lowhill	Possibly post-medieval pond known on aerial photographs	472500	223420	Post-Medieval	Non-Designated	Low

							Heritage Asset	
MBC7912	C200m Ne Lower Hogshaw Farm	Possible post-medieval fishpond recorded in field survey	475260	224100	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC10751	Great Pond, Chaloner's Wood	Roman pottery and metalwork found in the seventeenth century	469300	224850	Roman	Non-Designated Heritage Asset	Negligible	
MBC10752	Great Pond, Chaloner's Wood	Roman pottery and metalwork found in the seventeenth century	469300	224850	Roman	Non-Designated Heritage Asset	Negligible	
MBC10753	Great Pond, Chaloner's Wood	Site of former pond known from seventeenth century reference and nineteenth century map.	469279	224870	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC11068	Decoy-Pond Wood, Calvert	Decoy pond known from eighteenth century map and surviving earthworks recorded during site visit	469440	223935	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC11453	Claydon Manor	Fourteenth century record of windmill	472000	225000	Medieval	Non-Designated Heritage Asset	Low	
MBC11861	800m Nw Of Claydon House	Historical records and field survey of nineteenth century brick and tile works	471145	225665	Post-Medieval	Non-Designated Heritage Asset	Low	

MBC11862	Claydon Estate	Historical records of seventeenth century brick and tile works, probably where nineteenth century buildings are now	471150	225660	Post-Medieval	Non-Designated Heritage Asset	Low
MBC13276	Meeting Point Of 3 Parishes: Watermill And Ford	Historical record and local knowledge of watermill and ford in the sixteenth century and later	475648	225934	Post-Medieval	Non-Designated Heritage Asset	Low
MBC13593	East Claydon	Fourteenth century record of a medieval manor house	474000	225000	Medieval	Non-Designated Heritage Asset	Low
MBC13594	Botolph Claydon	Historical records of a windmill in the fourteenth and sixteenth centuries	473500	224500	Medieval	Non-Designated Heritage Asset	Low
MBC14921	Aylesbury-Buckingham Rly	Historical records of nineteenth century railway	474072	223491	Post-Medieval to Modern	Non-Designated Heritage Asset	Low
MBC14922	Grandborough Road Station	Historical records of nineteenth century railway station	474550	224210	Post-Medieval	Non-Designated Heritage Asset	Low
MBC14923	Winslow Road Station	Site of nineteenth century railway station known as Winslow Road Station, now disused.	475000	226040	Post-Medieval	Non-Designated Heritage Asset	Low
MBC14947	Great Central Railway	Late nineteenth century railway line, opened in 1899 and closed in 1966.	463663	230702	Post-Medieval	Non-Designated	Low

						Heritage Asset	
MBC14951	Great Central Railway	Historical records of the nineteenth century railway	468500	225200	Post-Medieval	Non-Designated Heritage Asset	Low
MBC14956	Grendon-Ashendon Railway	Documentary records of early twentieth century railway	470244	217606	Modern	Non-Designated Heritage Asset	Low
MBC14961	Grendon-Ashendon Railway	Field survey of twentieth century railway, now partly dismantled	470850	222120	Post-Medieval	Non-Designated Heritage Asset	Low
MBC21086	540m Se Of Sion Hill Farm	Roman pottery found whilst field walking	475170	224890	Roman	Non-Designated Heritage Asset	Negligible
MBC21140	550m Se Sion Hill Farm	Roman pottery and tile found whilst field walking	475150	224845	Roman	Non-Designated Heritage Asset	Negligible
MBC21469	Great Pond, Chaloner Wood	Site of former seventeenth to nineteenth century pond recorded in field survey.	469300	224850	Post-Medieval	Non-Designated Heritage Asset	Low
MBC22107	Open Fields, Hogshaw Township	Ridge and furrow of medieval to post-medieval open field system in Hogshaw township seen on aerial photographs	474062	222959	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low

MBC22108	Open Fields, Township Of Fulbrook	Ridge and furrow of medieval to post-medieval open field system in Fulbrook township on aerial photographs	475302	224119	Medieval	Non-Designated Heritage Asset	Low
MBC22111	Open Fields, Shipton Lee Township	Ridge and furrow of medieval to post-medieval open field system in Shipton Lee township	473001	221507	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC22456	Field S Of Hill End Farm, Hogshaw	Rectangular enclosures visible as cropmarks in aerial photographs	474218	222532	Unknown	Non-Designated Heritage Asset	Low
MBC22502	Elin's Rest And The Lych Gate	Nineteenth century brick gazebo and garden gate in walled gardens at Claydon House.	471980	225246	Post-Medieval	Non-Designated Heritage Asset	Low
MBC22507	Ha-Ha	Nineteenth century ha-ha recorded in field survey and known from documentary sources	471900	225370	Post-Medieval	Non-Designated Heritage Asset	Low
MBC23068	10th Century Boundary Of Winslow Manor: The 'Street'	Historical records of a long winding feature marking the southern boundary of Granborough in medieval and post-medieval times	475408	223879	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC23070	Staples Piece Farm: Stapelum Settlement	Historical records of a tenth century settlement and possible gallows at this junction of the 'Street' with the Roman Road	475524	223875	Early Medieval	Non-Designated Heritage Asset	Low
MBC23078	E Of Brook Farm	Sixteenth century placename evidence suggests that this may be the location of a medieval windmill	476111	226579	Medieval	Non-Designated	Low

							Heritage Asset	
MBC23079	Mr Lea's Biggin Estate	The 1599 Salden map shows a possible house and barn within enclosed fields to the west of Biggin Bridge	475879	226002	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC23080	Biggin Bridge	Sixteenth century record of 'Biggin Bridge' on the Winslow to Granborough road	476074	226116	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC23749	Junction Of Three Points Lane, Claydon Woods	Platform visible as a well-preserved earthwork, possibly the site of the medieval hermitage and chapel of Finemere.	471612	222521	Medieval	Non-Designated Heritage Asset	Low	
MBC24148	Hogshaw Village	Medieval settlement of Hogshaw, entered in Domesday Book	473833	222433	Medieval	Non-Designated Heritage Asset	Low	
MBC24326	Calvert Brickworks	Site of twentieth century brickworks, opened in 1900 and closed in 1991.	468403	224284	Modern	Non-Designated Heritage Asset	Low	
MBC24327	Charndon Woods	Site of former pit shown on modern maps	469209	223458	Post-Medieval	Non-Designated Heritage Asset	Low	
MBC24647	Shipton Lee Village	Medieval settlement of Shipton Lee, recorded in Domesday Book	472871	221310	Medieval	Non-Designated Heritage Asset	Low	

MBC25864	Botolph Claydon Village	Medieval and post-medieval village of Botolph Claydon.	473316	224517	Medieval	Non-Designated Heritage Asset	Low
MBC26339	South Lodge, Middle Claydon	This is a local building of note within the Conservation Area of Middle Claydon.	472036	224912	Post-Medieval	Non-Designated Heritage Asset	Low
MBC26340	Catherine Farm, Middle Claydon	Catherine Farm is located to the south-west of Claydon House.	471336	225102	Post-Medieval	Non-Designated Heritage Asset	Low
MBC26341	The Old Brickyard, Middle Claydon	The disused brickyard is situated approximately 800 metres north-west of Claydon House.	471219	225680	Post-Medieval	Non-Designated Heritage Asset	Low
MBC31075	Hogshaw (Known As)	PAS Findspot	474390	222590	Roman	Non-Designated Heritage Asset	Negligible
MBC31081	Hogshaw (Known As)	PAS Findspot	474370	222650	Roman	Non-Designated Heritage Asset	Negligible
MBC31091	Hogshaw (Known As)	PAS Findspot	474360	222560	Medieval	Non-Designated Heritage Asset	Negligible
MBC31581	Hogshaw (Known As)	PAS Findspot	473900	222500	Medieval	Non-Designated	Negligible

							Heritage Asset
MBC33135	Brick Wall Footings And Culvert	Brick wall footings, culvert and unidentified tile and stone feature recorded during watching brief	471942	225306	Post-Medieval	Non-Designated Heritage Asset	Low
MBC33153	Calvert Wrg Site	Shallow ditches, of probable 19th century date, that do not correspond with historic mapping. Identified during evaluation and investigated through strip, map and record excavation.	469598	222690	Post-Medieval	Non-Designated Heritage Asset	Low
MBC33154	Calvert Wrg Site	Undated ditches which may represent 19th century field boundaries	470466	222398	Post-Medieval	Non-Designated Heritage Asset	Low
MBC33155	Calvert Wrg Site	15th-17th century occupation	470380	222276	Post-Medieval	Non-Designated Heritage Asset	Low
MBC33204	Holloway	Deep holloway recorded at eastern edge of wood.	472510	221683	Unknown	Non-Designated Heritage Asset	Low
MBC33224	All Saints Church, Middle Claydon	A Roll of Honour commemorating parishioners who were killed during WW2 (1939-1945)	471898	225299	Modern	Non-Designated Heritage Asset	Low
MBC33225	All Saints Church Middle Claydon	A Roll of Honour commemorating parishioners who were killed in action during WW1 (1914-1918).	471901	225300	Modern	Non-Designated Heritage Asset	Low

MBC33303	St Mary The Virgin, East Claydon	War memorial and roll of honour in St Mary's Church commemorating parishioners killed in action during WW1 and WW2.	474000	225537	Modern	Non-Designated Heritage Asset	Low
MBC33996	Junction Of School Hill And Brackley Lane, Calvert Green	Twentieth century tin tabernacle built for workers at Calvert Brickworks in 1930s	468768	224706	Modern	Non-Designated Heritage Asset	Low
MBC34074	East West Rail	The Buckinghamshire Railway from Bletchley to Oxford opened in 1850 and was mothballed in 1993.	469592	226060	Post-Medieval to Modern	Non-Designated Heritage Asset	Low
MBC34119	Aylesbury To Calvert Railway	Late 19th century railway open to goods traffic and reopened to passengers as far as Aylesbury Vale Parkway in December 2008.	475782	217865	Post-Medieval	Non-Designated Heritage Asset	Low
MBC34272	Field East Of Woodlands Farm	Earthwork ditch identified on aerial photographs and LiDAR survey as a rectilinear cropmark. May be associated with medieval pond to north-east	471943	221372	Unknown	Non-Designated Heritage Asset	Low
MBC34273	Field East Of Woodlands Farm	Curvilinear ditched earthwork identified by LiDAR survey.	471797	221289	Unknown	Non-Designated Heritage Asset	Low
MBC34337	Land South Of Lower Greatmoor Farm	Medieval pits and gullies identified during a watching brief.	470512	222158	Medieval	Non-Designated Heritage Asset	Low
MBC38584	Findspot	PAS Findspot	472966	221080	Post-Medieval	Non-Designated	Negligible

							Heritage Asset	
MBC38585	Findspot	PAS Findspot		472890	221221	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38586	Findspot	PAS Findspot		472891	221227	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38593	Findspot	PAS Findspot		472916	221258	Medieval	Non-Designated Heritage Asset	Negligible
MBC38594	Findspot	PAS Findspot		472867	221253	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38911	Findspot	PAS Findspot		472864	221245	Medieval	Non-Designated Heritage Asset	Negligible
MBC38916	Findspot	PAS Findspot		472966	221093	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38918	Findspot	PAS Findspot		472870	221261	Post-Medieval	Non-Designated Heritage Asset	Negligible

MBC38919	Findspot	PAS Findspot	472870	221264	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38921	Findspot	PAS Findspot	472964	221097	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38922	Findspot	PAS Findspot	472885	221266	Medieval	Non-Designated Heritage Asset	Negligible
MBC38923	Findspot	PAS Findspot	472892	221267	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38924	Findspot	PAS Findspot	472878	221231	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38983	Findspot	PAS Findspot	472864	221234	Medieval	Non-Designated Heritage Asset	Negligible
MBC38984	Findspot	PAS Findspot	472894	221261	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC38985	Findspot	PAS Findspot	472963	221071	Post-Medieval	Non-Designated	Negligible

							Heritage Asset	
MBC38986	Findspot	PAS Findspot		472938	221199	Medieval	Non-Designated Heritage Asset	Negligible
MBC38988	Findspot	PAS Findspot		472951	221089	Medieval	Non-Designated Heritage Asset	Negligible
MBC38990	Findspot	PAS Findspot		472908	221157	Medieval	Non-Designated Heritage Asset	Negligible
MBC38991	Findspot	PAS Findspot		472889	221236	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC39142	Quinton (Known As)	PAS Findspot		473047	221183	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC39144	Quinton (Known As)	PAS Findspot		472977	221276	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC39581	Findspot	PAS Findspot		469530	223940	Post-Medieval	Non-Designated Heritage Asset	Negligible

MBC39969	Findspot	PAS Findspot		474490	226300	Roman	Non-Designated Heritage Asset	Negligible
MBC40233	Steeple Claydon (Known As)	PAS Findspot		469300	224850	Unknown	Non-Designated Heritage Asset	Negligible
MBC40259	Steeple Claydon (Known As)	PAS Findspot		469300	224850	Unknown	Non-Designated Heritage Asset	Negligible
MBC40617	Quainton (Known As)	PAS Findspot		470621	221988	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC40909	Findspot	PAS Findspot		474508	226336	Bronze Age	Non-Designated Heritage Asset	Negligible
MBC40923	Findspot	PAS Findspot		476000	225000	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC42194	Charndon	General background information on Charndon parish.		467662	223911	Unknown	Non-Designated Heritage Asset	Low
MBC43617	Linear Boundaries, North	Linear boundaries forming small plots close to Rookery Farm and the shrunken settlement at Granborough		476504	225467	Medieval to Post-Medieval	Non-Designated	Low

	Side Of Granborough					Heritage Asset	
MBC43621	Drainage Ditches East Of East Claydon	Drainage ditches leading out of an area of ridge and furrow earthworks, removed by construction of electricity distribution station	475366	226001	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC44625	Findspot	PAS Findspot	471039	222367	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC44626	Findspot	PAS Findspot	471049	222057	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC44628	Findspot	PAS Findspot	471064	222132	Post-Medieval	Non-Designated Heritage Asset	Negligible
MBC44711	Findspot	PAS Findspot	471000	221900	Late Iron Age to Roman	Non-Designated Heritage Asset	Negligible
MBC44737	Claydon House	Seventeenth century record of fishponds at Claydon House	472057	225390	Medieval to Post-Medieval	Non-Designated Heritage Asset	Low
MBC44755	Woodlands Farm	Section of enclosure ditch identified by geophysical survey	471614	221158	Unknown	Non-Designated Heritage Asset	Low

MBC44756	South Of Woodlands Farm	Possible building foundations and ditch identified by geophysical survey	471444	221050	Roman to Medieval	Non-Designated Heritage Asset	Low
MBC44757	East Of Woodlands Farm	Ditches identified by geophysics survey	471740	221165	Unknown	Non-Designated Heritage Asset	Low



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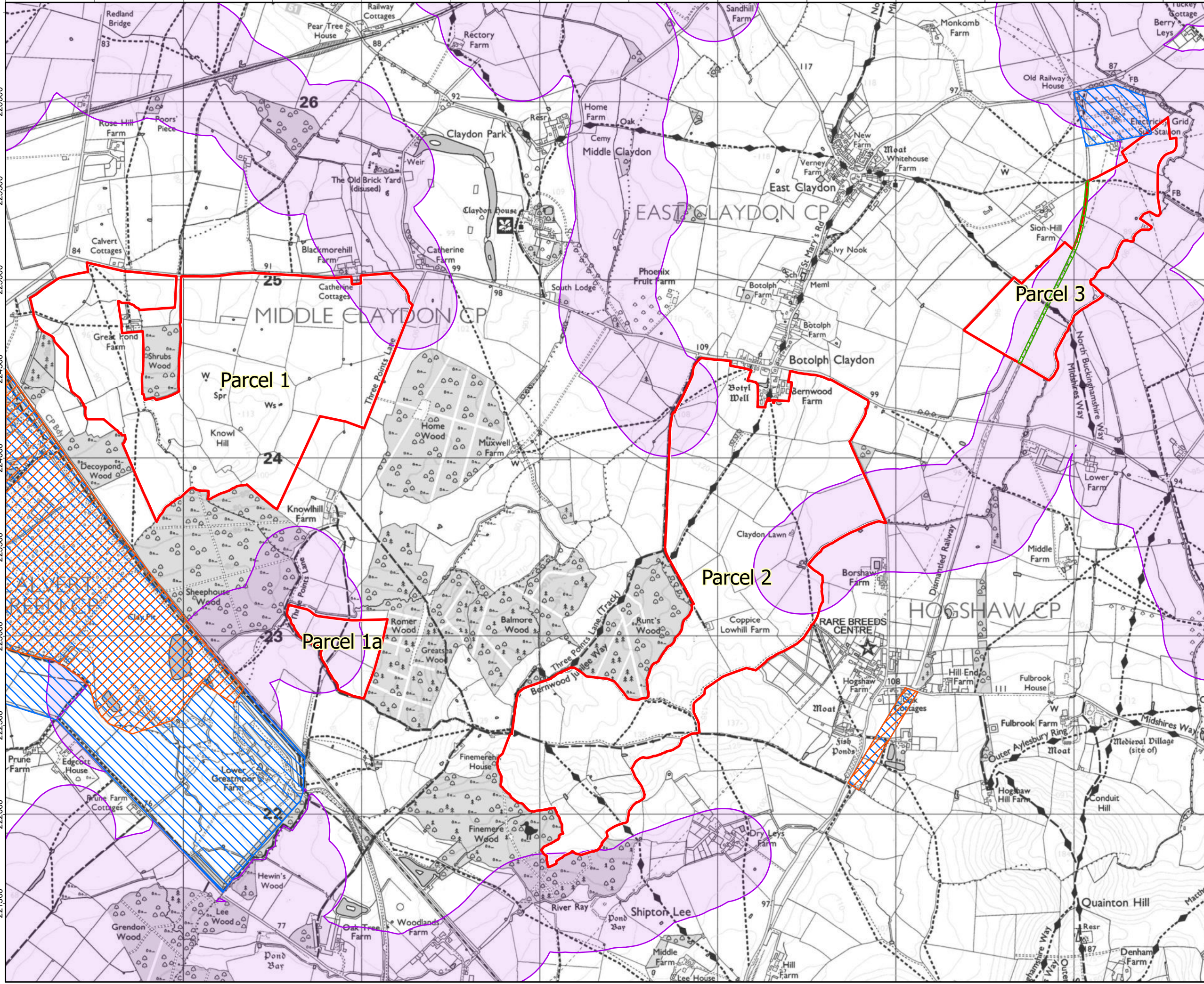
Appendix H

Land and Soil Figures



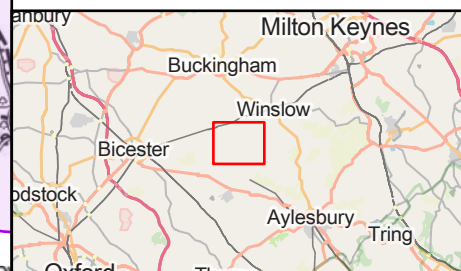
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226000
225500
225000
224500
224000
223500
223000
222500
222000
221500



- Legend:**
- Site Boundary
 - Landfill Site (Calvert Pit)
 - Potential for Contamination
 - Recorded Infilled Land (Calvert Pit)
 - Mineral Safeguarding Areas
 - Alluvium

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
02	03/11/2023	Revised Legend	DL	HH	JG
01	04/10/2023	Parcel Labels	FA	HH	JG
00	02/10/2023	First Draft	FA	HH	JG

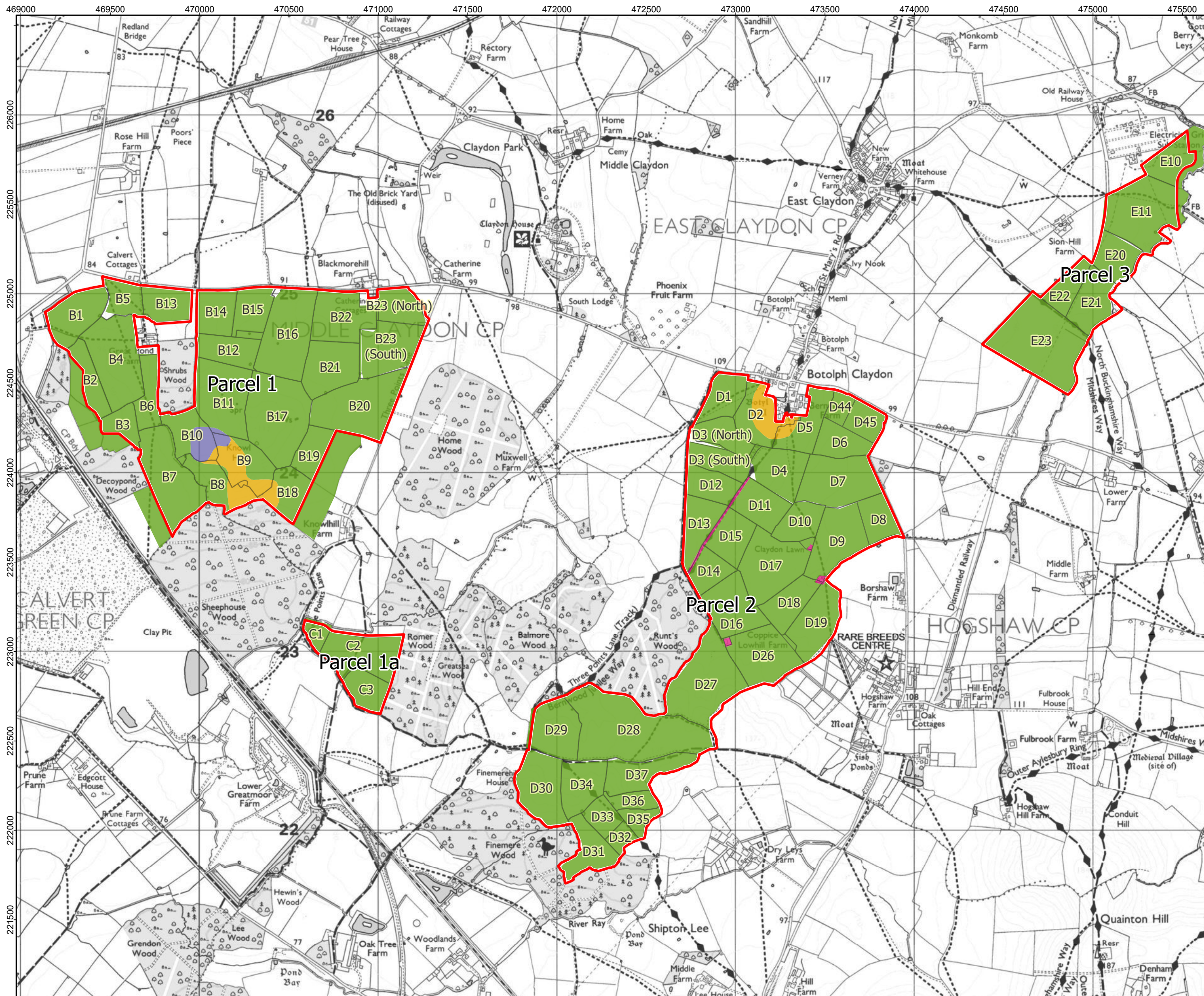
Rosefield Solar Farm

TITLE: 6.5.1 Land and Soils Features

ID: P663899_landSoilFeatures_A3L

Scale: 1:20,000 @ A3

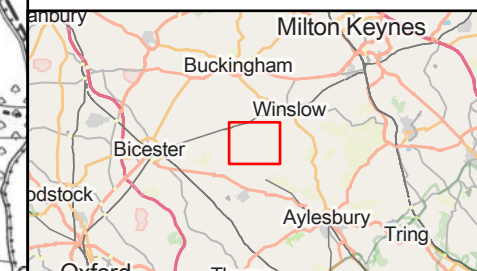
REV 02



Legend:

- Site Boundary
- ALC Grades**
- Grade 2
- Subgrade 3a
- Subgrade 3b
- N/A – buildings / built up area

Coordinate System: British National Grid
 Projection: Transverse Mercator
 Datum: OSGB 1936
 Units: Meter



Rev	Date	Description	Drn	Chk	App
02	03/11/2023	Revised Legend	DL	HH	JG
01	10/10/2023	Updated labels	FA	HH	JG
00	04/10/2023	First Draft	FA	HH	JG

Rosefield Solar Farm

TITLE: 6.5.2. Agricultural Land Classification

ID: P663899_ALC652_A3L

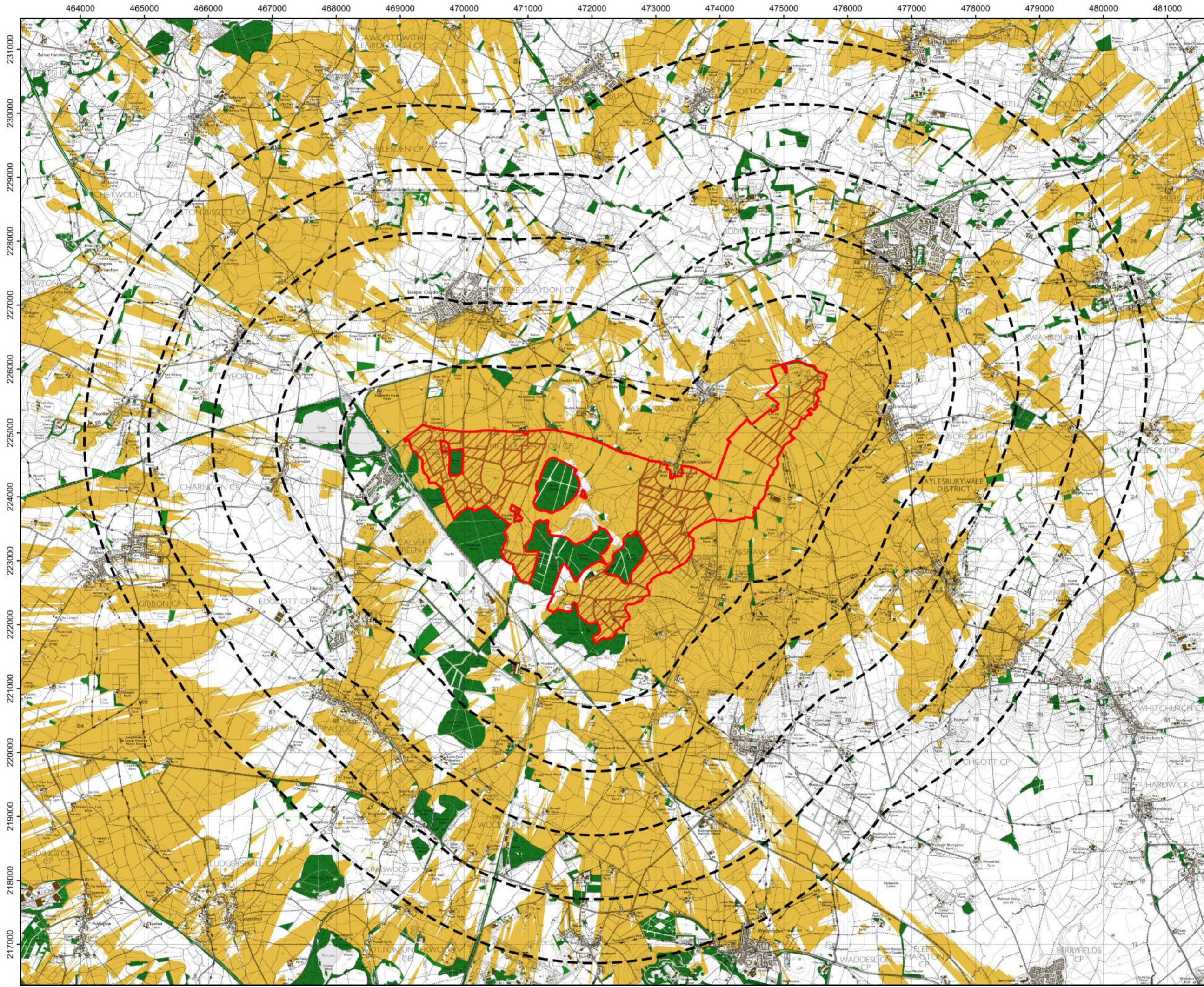
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REV 02

Appendix I

Landscape Figures





Legend:

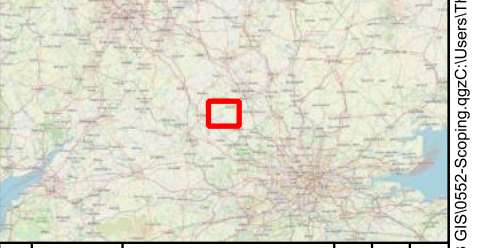
- Site Boundary
- Distance Radii from Site (1, 2, 3, 4 & 5km)
- Proposed areas for 3.5m solar PV modules
- Buildings (modelled at 7.5m)
- Woodland (modelled at 15m)

Zone of Theoretical Visibility (3.5m to top of panels)

- 3.5m solar PV modules may be visible

FIGURE DATA:
 This figure has been based on the following data:
 Layout file: obsvs-panels-3.5m-LIDAR5m-AH-12km
 Terrain data: T5-DSM
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

NOTES:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 15m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.



Rev	Date	Description	Drn	Chk	App
00	06/11/2023	First draft	TG	JI	JI

Rosefield Solar Farm

DOCUMENT:
 Scoping

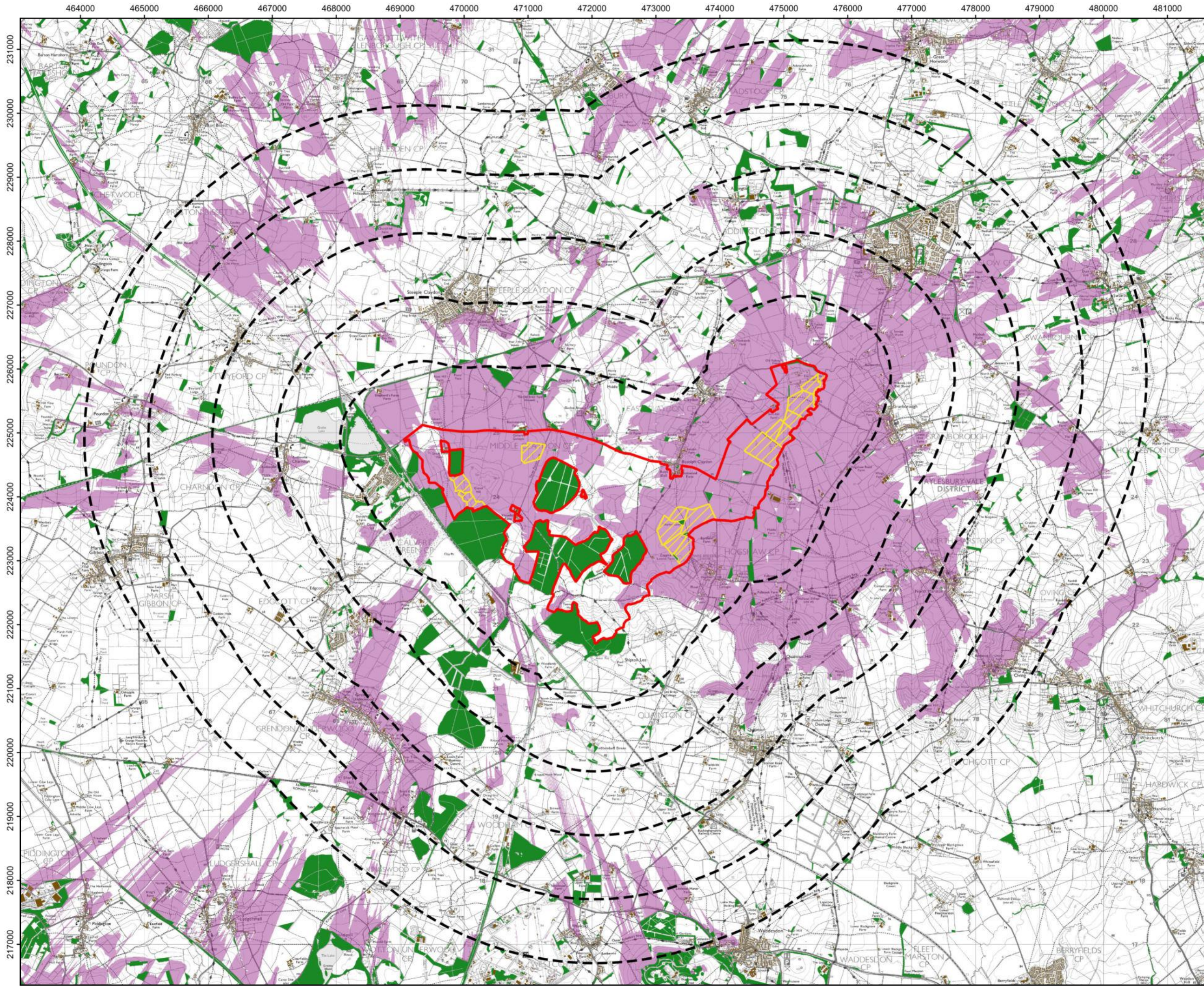
TITLE:
 Zone of Theoretical Visibility (3.5m solar PV modules)

FIGURE NUMBER: 1

0 500 1,000 m

Scale: 1:55,000 @ A3

REV 00



Legend:

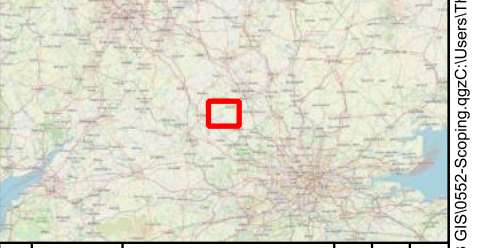
- Site Boundary
- Collector Compound
- Distance Radii from Site (1, 2, 3, 4 & 5km)
- Buildings (modelled at 7.5m)
- Woodland (modelled at 15m)

Zone of Theoretical Visibility (6m to top of Collector Compound)

- 6m Collector Compound may be visible

FIGURE DATA:
 This figure has been based on the following data:
 Layout file: obsvs-collector-compounds-6m-LIDAR-T5m
 Terrain data: T5-DSM
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

NOTES:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 15m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.



Rev	Date	Description	Drn	Chk	App
00	07/11/2023	First draft	TG	JL	JL

Rosefield Solar Farm

DOCUMENT:
 Scoping

TITLE:
 Collector Compound Zone of Theoretical Visibility

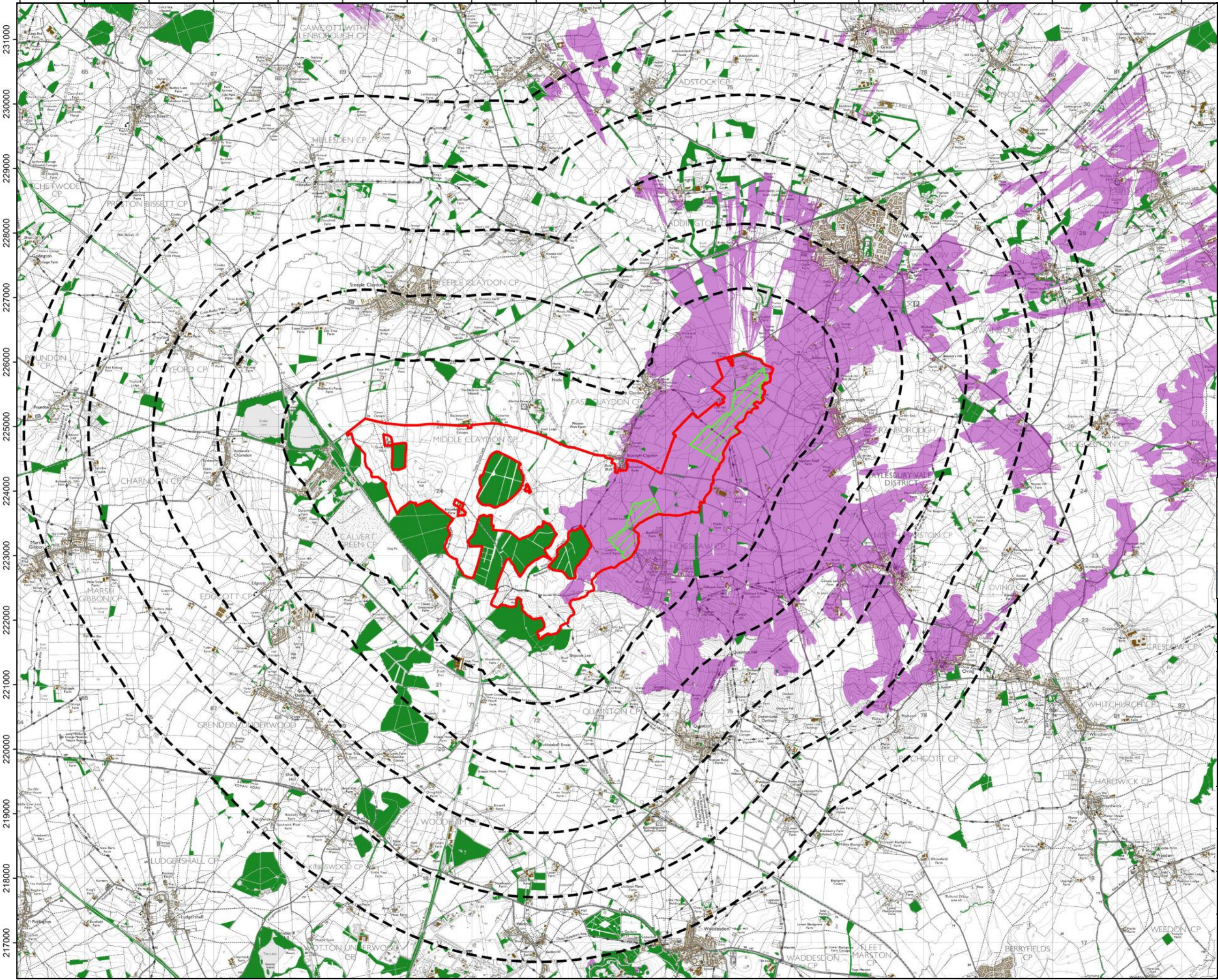
FIGURE NUMBER: 2

0 500 1,000 m

Scale: 1:55,000 @ A3

REV 00

464000 465000 466000 467000 468000 469000 470000 471000 472000 473000 474000 475000 476000 477000 478000 479000 480000 481000 482000



- Legend:**
- Site Boundary
 - Potential areas for BESS
 - Distance Radii from Site (1, 2, 3, 4 & 5km)
 - Buildings (modelled at 7.5m)
 - Woodland (modelled at 15m)
- Zone of Theoretical Visibility (7.6m to top of BESS Buildings)**
- BESS may be visible

FIGURE DATA:
 This figure has been based on the following data:
 Layout file: obsv-Option1-BESS-7.6m-LiDAR-T5m-AH-12km
 Terrain data: T5-DSM
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

NOTES:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 15m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.



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DOCUMENT:
 Scoping

TITLE:
 BESS Zone of Theoretical Visibility

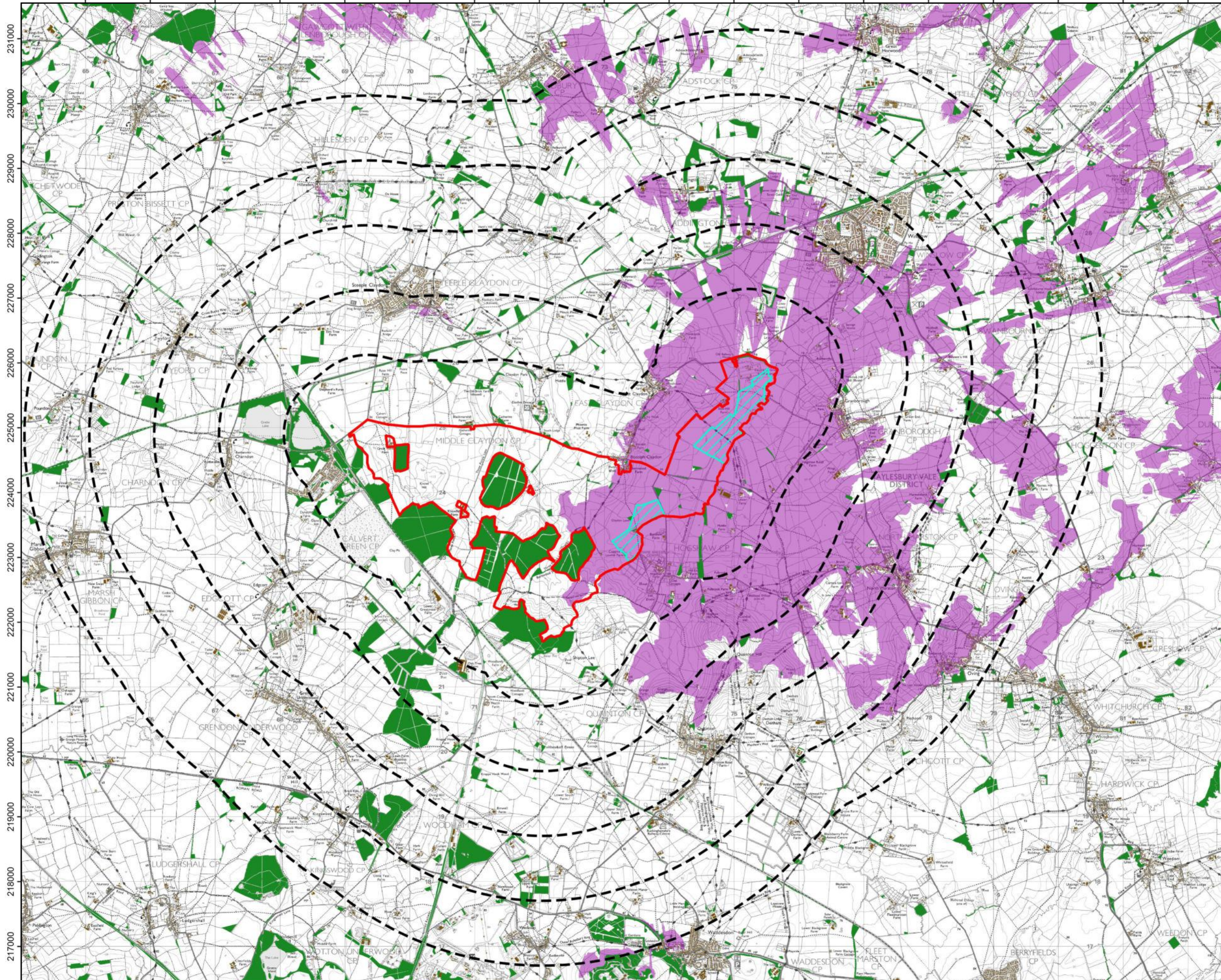
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Scale: 1:55,000 @ A3

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- Legend:**
- Site Boundary
 - Potential Area for Substation
 - Distance Radii from Site (1, 2, 3, 4 & 5km)
 - Buildings (modelled at 7.5m)
 - Woodland (modelled at 15m)
- Zone of Theoretical Visibility (15m to top of substation)**
- Substation may be visible

FIGURE DATA:
 This figure has been based on the following data:
 Layout file: obsv-Option2-Substation-15m-LIDAR-T5m-AH-12km
 Terrain data: T5-DSM
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

NOTES:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 15m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.



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Rosefield Solar Farm

DOCUMENT:
 Scoping

TITLE:
 Substation Zone of Theoretical Visibility

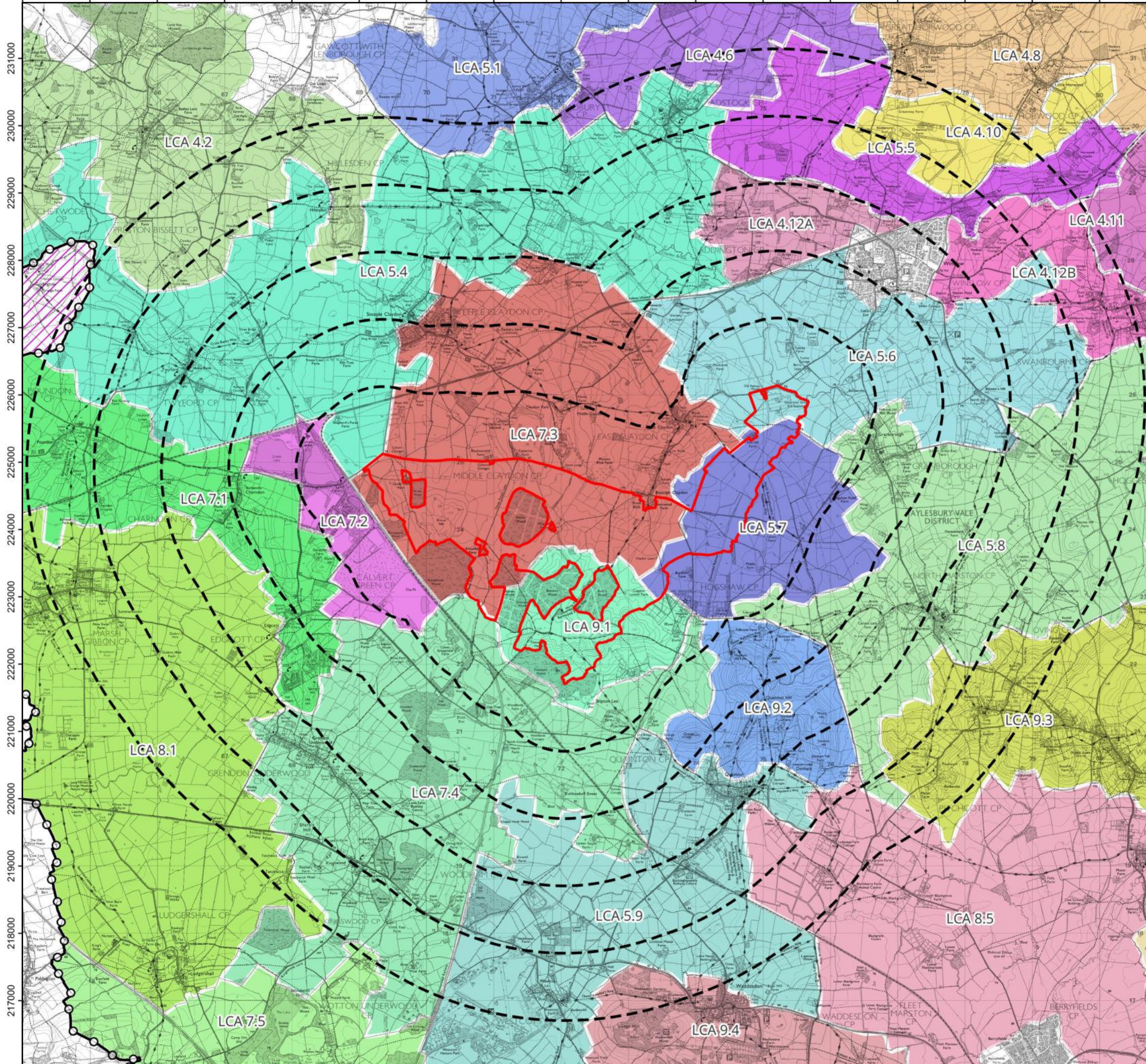
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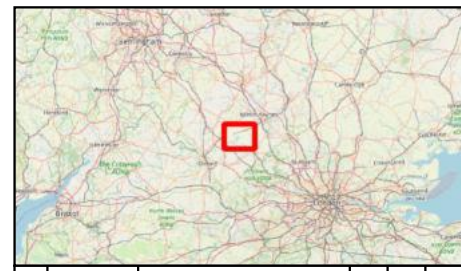
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Legend:

- Site Boundary
 - Distance radii from site (1, 2, 3, 4 & 5km)
 - Local Authority Boundary
- Aylesbury Vale Landscape Character Assessment**
- Landscape Character Areas**
- LCA 4.2 Preston Bissett Plateau Edge
 - LCA 4.8 Horwood Claylands
 - LCA 4.10 Greenway Open Farmland
 - LCA 4.10 Greenway Open Farmland
 - LCA 4.11 Mursley Soulbury Claylands
 - LCA 4.12A Winslow Ridge
 - LCA 4.12B Winslow Ridge
 - LCA 4.15 Weedon Ridge
 - LCA 7.4 Kingswood Wooded Farmland
 - LCA 4.6 A421 Ridge
 - LCA 5.1 Padbury Valley Revised
 - LCA 5.4 Twyford Vale
 - LCA 5.5 Claydon Tributary
 - LCA 5.6 Claydon Valley
 - LCA 5.7 Hogshaw Claylands
 - LCA 5.8 North Marston Undulating Claylands
 - LCA 5.9 Westcott Claylands
 - LCA 7.1 Poundon – Charndon Settled Hills
 - LCA 7.2 Calvert Clay Pit
 - LCA 7.3 Claydon Bowl
 - LCA 7.5 Bernwood Forest
 - LCA 8.1 Marsh Gibbon Vale
 - LCA 8.5 Northern Vale
 - LCA 9.2 Quanton Hill
 - LCA 9.3 Pitchcott Whitchurch Ridge
 - LCA 9.4 Waddesdon-Eythrope Parkland
- Oxfordshire Landscape Character Areas**
- LCA Northamptonshire Vales



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Rosefield Solar Farm

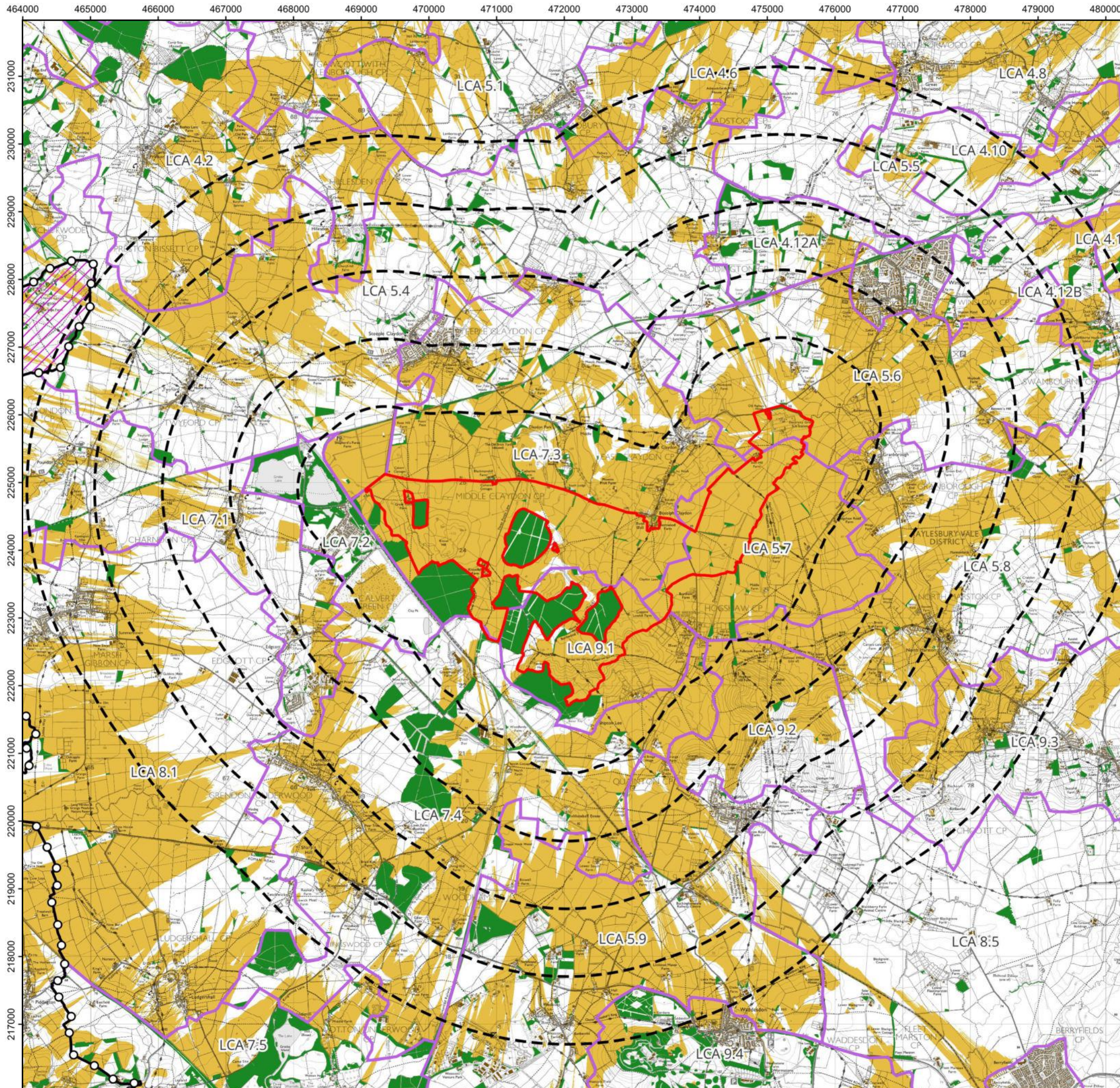
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TITLE:
Landscape Character Areas

FIGURE NUMBER: 5a

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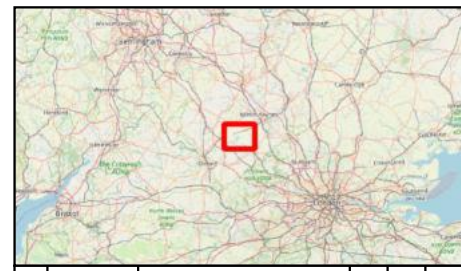
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Legend:

- Site Boundary
- Distance radii from site (1, 2, 3, 4 & 5km)
- Aylesbury Vale Landscape Character Areas
- Buildings (modelled at 7.5m)
- Woodland (modelled at 15m)
- Local Authority Boundary
- LCA Northamptonshire Vales
- 3.5m solar PV modules may be visible

- Oxfordshire Landscape Character Areas**
- LCA 4.2 Preston Bissett Plateau Edge
 - LCA 4.6 A421 Ridge
 - LCA 4.8 Horwood Claylands
 - LCA 4.10 Greenway Open Farmland
 - LCA 4.11 Mursley Soulbury Claylands
 - LCA 4.12A Winslow Ridge
 - LCA 4.12B Winslow Ridge
 - LCA 5.1 Padbury Valley Revised
 - LCA 5.4 Twyford Vale
 - LCA 5.5 Claydon Tributary
 - LCA 5.6 Claydon Valley
 - LCA 5.7 Hogshaw Claylands
 - LCA 5.8 North Marston Undulating Claylands
 - LCA 5.9 Westcott Claylands
 - LCA 7.1 Poundon Charndon Settled Hills
 - LCA 7.2 Calvert Clay Pit
 - LCA 7.3 Claydon Bowl
 - LCA 7.4 Kingswood Wooded Farmland
 - LCA 8.1 Marsh Gibbon Vale
 - LCA 8.5 Northern Vale
 - LCA 9.1 Finmere Hill
 - LCA 9.2 Quainton Hill
 - LCA 9.3 Pitchcott
 - LCA 9.4 Waddesdon-Eythrope Parkland



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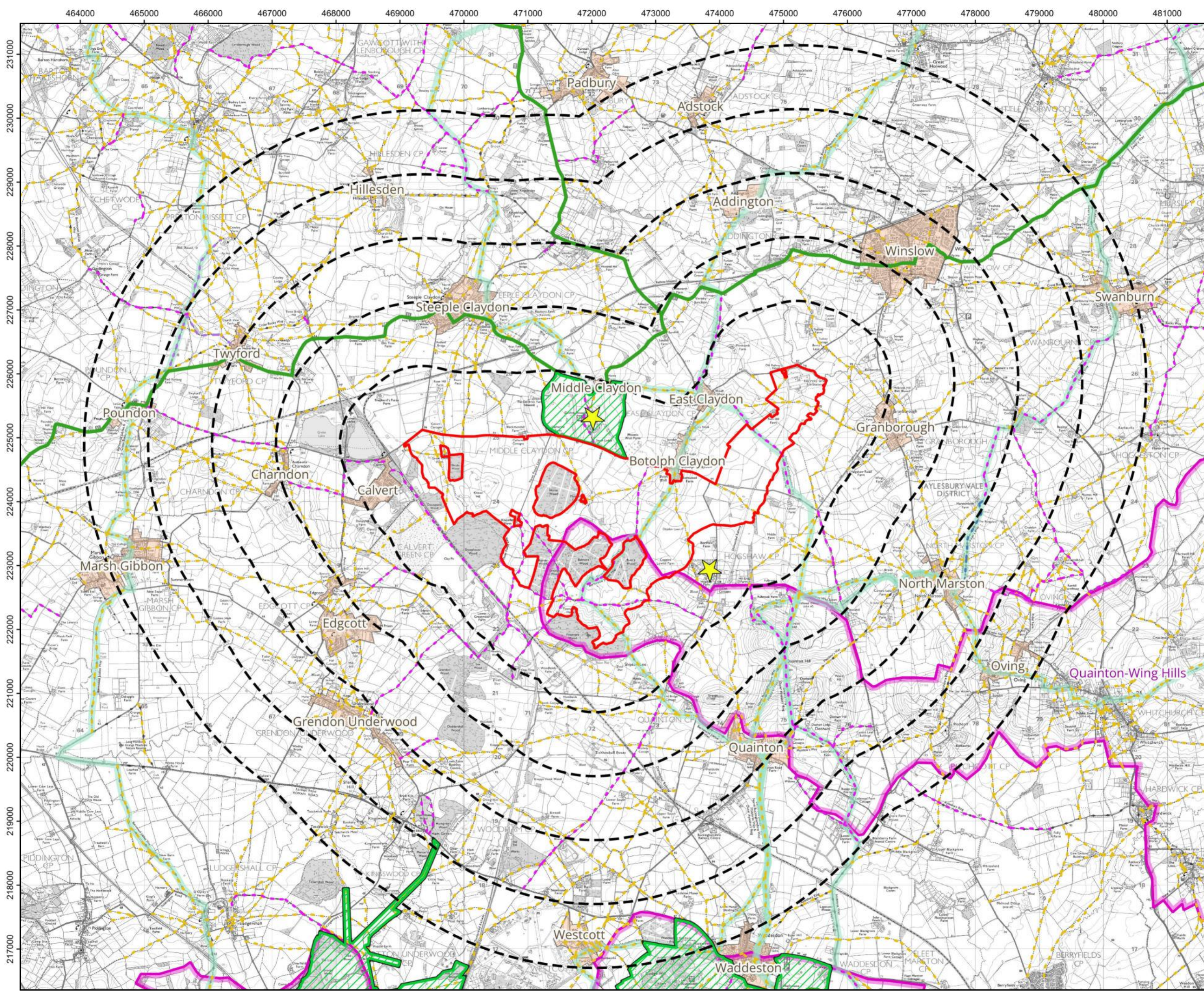
TITLE:
Landscape Character Areas with ZTV

FIGURE NUMBER: 5b

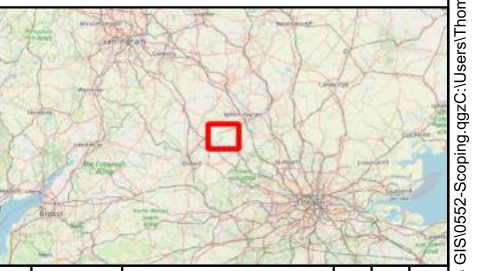
0 500 1,000 m

Scale: 1:57,500 @ A3

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- Legend:**
- Site Boundary
 - Distance radii from site (1, 2, 3, 4 & 5km)
 - Settlements
 - ★ Tourist Receptor
 - Published Recreational Routes
 - National Cycle Route
 - Public Rights of Way - Boat
 - Public Rights of Way - Bridleway
 - Public Rights of Way - Footpath
 - Public Rights of Way - Restricted-byway
 - Area of Attractive Landscape 3: Quanton-Wing Hills
 - Registered Park and Garden



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Rosefield Solar Farm

DOCUMENT:
Scoping

TITLE:
Visual Receptors and relevant Landscape Policy

FIGURE NUMBER: 6

0 500 1,000 m

Scale: 1:55,000 @ A3

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Appendix J

Glossary and Abbreviations



APPENDIX G – GLOSSARY AND ABBREVIATIONS

Term	Definition
Abnormal Indivisible Load (AIL)	Any load which cannot be broken down into smaller loads for the purposes of transportation, without undue expense or risk of damage.
Agricultural Land Classification (ALC)	A framework for determining the physical quality of the land at national, regional, and local levels. This is based on the long-term physical limitations of land for agricultural use. There are a number of factors that affect the grade, and the main ones are climate, site and soil characteristics, and the interactions between them.
Air Quality Management Area (AQMA)	Air Quality Management Areas (AQMAs) are areas that are likely to exceed the national air quality objective for a specific pollutant. They are determined by Local Authorities .
Ancient Woodland	Ancient Woodland is defined as an area that has been wooded continuously since at least 1600 AD. Ancient Woodland is divided into ancient semi-natural woodland and plantations on Ancient Woodland sites. Both types are classed as ancient woods.
Applicant	The organisation (Rosefield Energyfarm Ltd) preparing and submitting the DCO Application.
Application	The application for a Development Consent Order submitted by the Applicant.
Aquifer	Underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials (gravel, sand, or silt).
Archaeological Interest	There will be archaeological interest in a Heritage Asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

Authorised Development	The development that will be described in the draft Development Consent Order (DCO) . This is also referred to as the Proposed Development .
Balance of Solar System (BoSS)	The components and equipment that convert the direct current (DC) electricity collected by the solar PV modules into alternating current (AC) comprised of inverters, transformers, and switchgear associated cables, monitoring and control equipment and structures.
Baseline	A reference level of existing Environmental Conditions against which a project is measured and controlled.
Baseline Studies	Work done to determine and describe the Environmental Conditions against which any future changes can be measured or predicted and assessed.
Battery Energy Storage System (BESS)	The area within the Solar Farm Site which will contain batteries, inverters, transformers and switchgear, Low Voltage Distribution Cables, some Primary Access Tracks, fencing and other associated works. This equipment allows for the storage, importation and exportation of energy to the National Grid.
Best and Most Versatile Agricultural Land (BMV)	Defined as Grades 1, 2 and 3a in the Agricultural Land Classification by the revised National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) . This is the land, which is determined to be most flexible, productive, and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres, and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is of moderate quality to very poor quality.
Biodiversity	The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, Landscape , ecosystem, Habitats , communities, Species , populations, individuals, genes, and the structural and functional relationships within and between these different levels.

Biodiversity Net Gain (BNG)	Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before.
Cables	The cables, which transmit electricity from different components on the Site.
Cable Route Corridor	Corridor which represents the maximum extent of land within which the cable route would be located.
Catchment	The total area which drains to a specific point on a watercourse.
Climate Change	Large scale, long term shift in the Earth's weather patterns or average temperature.
Collector Compounds	System comprising of switchgear and transformers and associated infrastructure, which will collect electricity via the buried MV cables from the inverter and transformer stations (ITS) and transmit via further cables to the Project Substation.
Combined Effects	The interaction and combination of different residual (post mitigation) environmental effects of the Proposed Development affecting the same Receptor . For example, visual and noise effects during construction affecting the same residential dwelling.
Competent Authority	The relevant Secretary of State is the Competent Authority for the purposes of the Habitats Directive and the Habitats Regulation in relation to applications for Nationally Significant Infrastructure Projects (NSIPs) .
Construction Stage	The stage during which construction works for the Proposed Development will take place.
Consultation Documents	The documents submitted to support the formal preapplication consultation under the PA2008 . They included " <i>plans and maps showing the nature and location of the proposed development</i> " as stated in subsection (4) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

Construction Compound	A secure area from which construction activities are managed and resourced, including but not limited to temporary offices, workshops, parking and storage.
Construction Contractor	The person or organisation appointed by the Applicant to undertake the construction of the Proposed Development , including the management of the construction process and health and safety on Site .
Contaminated Land	Land where substances are causing or have a significant possibility to cause significant harm to people, property or protected species; or, where significant pollution is being caused or has a significant possibility of being caused to controlled waters.
Cumulative Effects	The effects of the Proposed Development in cumulation with other existing development and/or approved development.
Decommissioning	The process of shutting down, and where relevant, removing the infrastructure comprised in the Proposed Development when it is no longer required once it has reached end of life.
DCO Application	The Application for a Development Consent Order (DCO) that is submitted by the Applicant to the Secretary of State (SoS) for Business, Energy, and Industrial Strategy (BEIS).
Development Consent Order (DCO)	A Development Consent Order (DCO) is a Statutory Instrument (SI) made by the Secretary of State (SoS) pursuant to the Planning Act 2008 (as amended) (PA2008).
DCO Requirement	The conditions which govern how the project is to be delivered. These will form part of the Schedule of Requirements.
Direct Effect	An effect that is directly attributable to the Proposed Development .
Disaster	In the context of the Proposed Development , a naturally occurring phenomenon such as an extreme weather event (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence,

	landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident .
Enhancement	Measures to improve the environment, such as landscape resource and the visual amenity of the Proposed Development and its wider setting, over and above its Baseline condition.
Environmental Effect	The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees.
Environmental Impact	The change in the environment from a development, such as the removal of a hedgerow.
Environmental Impact Assessment (EIA)	A systematic means of assessing the significance of effects from the Proposed Development , undertaken in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (DCO EIA Regulations).
EIA Directive	Directive 85/337/EEC (as amended). The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.
EIA Regulations	For the purpose of the DCO Application , the EIA Regulations are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Environmental Statement (ES)	A statement prepared in accordance with the EIA Regulations that includes the information that is reasonably required to assess the likely effects of a development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile.
European Designated Site	An area of land subject to protection through European legislation, including Special Area of Conservation (SAC) , Special Protection Area (SPA) and Ramsar.

Exceedance	A period of time where the concentrations of a pollutant is greater than the appropriate quality standard.
External Influencing Factor	A factor which occurs beyond the limits of the Proposed Development that may present a risk to the Proposed Development, e.g. if an external disaster occurred (e.g. earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the Proposed Development.
Flood Map for Planning	Defines Flood Zones based on annual probability of flooding from Fluvial and tidal sources to inform development planning and flood risk assessment. Nationally consistent delineation of 'high', 'medium' and 'low' flood risk updated by the Environment Agency as deemed appropriate, typically on a quarterly basis.
Flood Risk Assessment (FRA)	An assessment of the risk of flooding. A document that reviews a development in its proposal form to assess it against the risk of flooding, whether that be from groundwater, river (fluvial), surface water (pluvial), estuary / coastal (tidal), or from sewer sources.
Flood Zones	Zones based on the annual probability of flooding from Fluvial and tidal sources, as defined in the Flood Map for Planning . Areas are categorised into one of the following: Flood Zone 1, Flood Zone 2, Flood Zone 3a or Flood Zone 3b.
Flood Zone 1	This zone comprises land assessed as having less than a 1 in 1,000 (0.1%) annual probability of flooding from rivers or the sea in any year.
Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 (1%) and 1 in 1000 (0.1%) annual probability of flooding from rivers, or between a 1 in 200 (0.5%) and 1 in 1,000 (0.1%) annual probability of flooding from the sea in any year.
Flood Zone 3a	This zone comprises land assessed as having a 1 in 100 (1%) or greater annual probability of flooding from rivers or a 1 in 200 (0.5%) or greater annual probability of flooding from the sea in any year.

Flood Zone 3b	This zone comprises land where water has to flow or be stored in times of flood.
Fluvial	Processes associated with rivers and streams and the deposits and landforms created by them.
Future Baseline	The likely evolution of the baseline without implementation of the Proposed Development .
Geographical Information System (GIS)	A system that captures, stores, analyses, manages, and presents data linked to location. It links spatial information to a digital database.
Geomorphology	Study of landforms, their processes, form, and sediments at the surface of the Earth.
Geophysical Survey	Geophysical survey is a non-intrusive pre-construction archaeological evaluation technique that exploits a variety of physical or chemical characteristics of rocks and soils etc, in an attempt to locate underground features of archaeological interest. Types of geophysical survey include magnetometer survey, magnetic susceptibility survey and resistivity survey.
Geotechnical Survey	An investigation to determine the nature and engineering properties of the soil and other materials and to determine soil profiles and property assignments for the purpose of design and construction.
Greenhouse Gas (GHG)	Gases that absorb and emit reflected solar radiation which result in the warming of the Earth's atmosphere. It is absorbed and emitted at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere, and clouds. The six main GHGs whose emissions are human caused are: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon, and sulphur hexafluoride. In combination, these GHG emissions are commonly expressed in terms of 'carbon dioxide equivalents' (CO ₂ e) according to their relative global warming potential. For this reason, the shorthand 'carbon' may be used to refer to GHGs.

Grid Connection	The export and import of electricity to the National Grid from the National Grid Substation which will tie into the existing 400kV overhead transmission line.
Ground Investigation (GI)	The physical investigation stage of the Geotechnical Survey of which Geophysical Surveys may be one element. Comprised of targeted investigations including both intrusive and non-intrusive techniques to prove ground conditions, determine soil / rock parameters and identify hazards associated with the ground conditions to inform the construction of the proposed development.
Groundwater	Groundwater is the store of water present beneath Earth's surface in rock and soil pore spaces and in the fractures of rock formations.
Ground water Source Protection Zone (SPZ)	Also, Source Protection Zone (SPZ) , defined for 2,000 groundwater sources such as wells, boreholes and springs used for public drinking water supply, show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The SPZ maps show three main zones (inner, outer, and total catchment) and a fourth zone of special interest, which the Environment Agency occasionally apply to a groundwater source.
Habitat	The environment in which populations or individual species live or grow.
Habitats Directive	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 (as amended) which covers the terrestrial environment.
Habitats Regulations Assessment (HRA)	A Habitats Regulations Assessment (HRA) refers to the stages of assessment carried out by the competent authority in accordance with Habitats Regulations and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) to determine if a project may affect the protected features of a European site and European offshore marine site,

	before deciding whether to undertake, permit or authorise it.
Habitats Site	Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.
Haul Road	Haul roads are temporary roads to allow for the movement of construction materials, construction machinery and/or construction labour around the Site .
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these.
Hazardous Waste	Waste that by legal definition may cause particular harm to human health or the environment.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Heritage Asset	A building, monument, site, place, area, or Landscape identified as having a degree of significance meriting consideration in planning decisions, because of its Heritage interest. Heritage Assets include Designated Heritage Assets and Non-Designated Heritage Assets.
Historic Environment Record (HER)	The record of archaeological and built heritage features in a county or district, usually held and maintained by the relevant County Council.
Indirect Effect	An effect that results indirectly from the Proposed Development , as a consequence of a ' Direct Effect ', often occurring away from the Site , or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the Source of the Environmental Effect .

Internal Drainage Board (IDB)	Each internal drainage board is a public body that manage water levels in an area, known as an internal drainage district, where there is a special need for drainage. They undertake works to reduce flood risk to people and property and manage water levels for agricultural and environmental needs within their district.
Internal Influencing Factor	A factor which occurs within the limits of the Proposed Development that may present a risk to the Proposed Development .
Inverter	Inverters convert the direct current (DC) electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid. BESS also use inverters to convert between DC and AC. The batteries function in DC and electricity must be converted to/from AC to pass into or from the grid.
Inverter and Transformer Station (ITS)	Enclosed facility that hosts the inverters and transformer within one combined container.
LAeq	Equivalent Continuous Level. When a noise varies over time, the LAeq is the equivalent continuous sound which would contain the same sound energy as the time varying sound.
Land Cover	The surface cover of the land usually expressed in terms of vegetation cover or lack of it. Related to, but not the same as, Land Use .
Land Drainage	The disposal of rainwater, achieved by a combination of watercourses of various types.
Land Use	The purpose for which land is used, based on broad categories of functional land cover, such as urban and infrastructure use and the different types of agricultural and forestry.
Landfill	A facility designed to receive disposed waste. Usually involves the infill of pre-existing voids.

Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation, and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape and Ecological Management Plan	A document to set out the principles for how the land will be managed throughout the operational phase, following the completion of the construction phase.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significant effect of change resulting from development both on the Landscape as an environmental resource in its own right and on people's views and Visual Amenity .
Landscape Character	A distinct, recognisable and consistent pattern of Elements in the Landscape that makes one Landscape different from another.
LAm_{ax}	LAm _{ax} is the maximum A - weighted sound pressure level recorded over the period stated. LAm _{ax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall LA _{eq} noise level but will still affect the noise environment.
Lead Local Flood Authority (LLFA)	The local authority responsible for taking the lead on local flood risk management as defined within the Flood and Water Management Act 2010.
Likely Significant Effect	<p>The significance of an environmental effect is typically a function of the 'value' or 'sensitivity' of the Receptor and the 'magnitude' or 'scale' of the Impact. Combining the environmental value of the resource or receptor with the magnitude of change produces a significance of effect category.</p> <p>The definition of a significant effect for each environmental topic will be contained within their respective chapters of the Environmental Statement.</p>
Limit of Deviation	These limits show the maximum area within which the Proposed Development could be installed. This

	flexibility is required in order to deal with unforeseen circumstances, such as ground conditions and local features.
Local Development Plan (LDP)	The set of documents and plans that sets out the Local Planning Authority's policies and proposals for the development and use of land in their area.
Local Wildlife Site (LWS)	A site of importance that has been identified and selection locally for their wildlife value.
Local Planning Authority (LPA)	The function of a local authority that is empowered by law to exercise statutory town planning functions for a particular area of the UK.
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected as a result of noise or vibration.
Main River	A watercourse shown as such on the Flood Map for Planning and can include any structure or appliance for controlling or regulating the flow of water in, into or out of a main river. Main Rivers are usually larger streams and rivers, but also include smaller watercourses of strategic drainage importance. Main Rivers are under the jurisdiction of the Environment Agency who have powers to carry out flood defence works to Main Rivers.
Major Accident	In the context of the Proposed Development , an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation Measures	Actions proposed to avoid, prevent, reduce and where possible, offset significant adverse effects arising from

	the whole or specific elements of the Proposed Development on the environment.
National Grid Substation	A compound containing electrical equipment to enable connection, transmission and distribution of electricity to the grid.
National Planning Policy Framework (NPPF)	The document that sets out Government's planning policies for England and how these are expected to be applied. The NPPF was last revised in July 2021.
National Policy Statement (NPS)	Policy designated under the Planning Act 2008 (as amended) (PA2008) concerning the planning and consenting of Nationally Significant Infrastructure Projects (NSIPs) in the UK. Where applicable, they form the primary policy framework for the consenting of NSIPs.
National Trail	Designated long-distance paths.
Nationally Significant Infrastructure Project (NSIP)	Projects which fall under one of the categories in Part 3 of the Planning Act 2008 (as amended) (PA2008).
Nationally Designated Ecological Site	Areas of land subject to project through UK legislation, including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).
Noise Sensitive Receptor	Any identified Receptor likely to be affected by noise. These are generally human Receptors, and may include residential dwellings, work places, schools, hospitals, community facilities, places of worship, recreational spaces and ecological Receptors.
No Observed Effect Level (NOEL)	The level below which no effect from noise or vibration can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
Non-Statutory Consultation	Consultation with stakeholders on the Proposed Development which occurs in addition to the Statutory Consultation .
Non-Statutory Consultees	Consultees who – whilst not designated in law – are likely to have an interest in the Proposed Development

	and which the Applicant has therefore decided to consult with.
Operational Stage	The stage after which the Proposed Development is handed over by the relevant construction contractors and approved for operation. It will remain in its Operational Stage until operations cease.
Ordinary Watercourse	Any river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows that does not form part of a Main River . The Lead Local Flood Authority (LLFA) or Internal Drainage Board (IDB) where relevant, has powers for Ordinary Watercourses that are similar to those held by the Environment Agency for Main Rivers .
Parameters	A limit or boundary which defines the maximum or minimum height/width/length/depth parameters of infrastructure, which will be shown on parameter plans and secured through the DCO .
Phase 1 Habitat Survey	An ecological survey technique that provides a standardised system to record vegetation and wildlife Habitat . It enables a basic assessment of Habitat type and its potential importance for nature conservation.
Planning Inspectorate (PINS)	The Government agency responsible for administering applications for development consent under the Planning Act 2008 (as amended) (PA2008) on behalf of the Secretary of State (SoS) .
Planning Practice Guidance (PPG)	The Planning Practice Guidance (PPG) provides context and guidance to the National Planning Policy Framework (NPPF) . The PPG has been updated to reflect changes to the revised NPPF.
Potential Area for Solar Development	The proposed maximum area of solar infrastructure, including Solar PV modules and Balance of Solar System .
Pollution	The introduction of harmful materials into an environment.
Preliminary Ecological Appraisal (PEA)	Preliminary ecological surveys have a range of purposes; one key use is to gather data on existing

	<p>conditions, often with the intention of conducting a preliminary assessment of likely impacts of proposed developments or establishing the baseline for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for notable Species or Habitats, identification of potential constraints to the Proposed Development and recommendations for Mitigation Measures.</p>
Preliminary Environmental Information Report (PEIR)	<p>The Preliminary Environmental Information Report (PEIR) is the report prepared by the Applicant, containing Preliminary Environmental Information (PEI).</p>
Primary Mitigation	<p>Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken.</p>
Project Substation (Rosefield Substation)	<p>A compound containing electrical equipment to enable connection to the National Grid Substation.</p>
Proposed Development	<p>The development for which a Development Consent Order (DCO) is sought. In this instance, this includes the following:</p> <ul style="list-style-type: none"> • Ground mounted solar PV generating station. The generating station will include solar PV modules and mounting structures. • Balance of Solar System (BoSS) which comprises; inverters, transformers, switchgear. • Collector Compounds comprising; switchgear, transformers and an operation, maintenance and welfare facilities. • Rosefield Substation compound, which will include; substation, switching and control equipment, office / control / welfare buildings, storage areas, and provisions for vehicular parking and material laydown. • Battery Energy Storage System (BESS) compound(s) which will include office / control / welfare buildings and associated inverters, transformers, switchgear and ancillary equipment

	<p>and their containers, enclosures, monitoring systems, air conditioning, electrical cables, and fire safety infrastructure.</p> <ul style="list-style-type: none"> • Ancillary infrastructure works including; underground cables, boundary treatments, security equipment, lighting , landscaping, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development. • Landscaping, habitat management, biodiversity enhancement and amenity improvements. • Highway works to facilitate vehicular access to the Site. • Operations and maintenance buildings with associated parking and security kiosk.
Preliminary Risk Assessment	Report that presents a summary of readily-available information on the geotechnical and/or geo-environmental characteristics of the site and provides a qualitative assessment of geo-environmental and/or geotechnical risks in relation to the proposed development.
Ramsar Site	Wetlands of international importance designated under the Ramsar Convention 1971.
Receptor	A component of the natural, created or built environment such as a human being, water, air, a building, or a plant that has the potential to be affected by the Proposed Development .
Recovery	Processing waste to prevent it being disposed of to landfill. Recovery processes include incineration with energy recovery, advanced thermal treatment, anaerobic digestion, and composting.
Recycle	Any recovery operation where waste is reprocessed into products, materials or substances whether for its original or other purposes. Recycling includes the reprocessing of organic material but excludes energy recovery and the reprocessing of waste into materials to be used as fuels or for backfilling operations.

Residual Effects	Effects arising from the Proposed Development that cannot be mitigated following implementation of Mitigation Measures .
Resilience (climate change)	The vulnerability of the Proposed Development to climate change.
Reuse	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived; reuse presumes that significant reprocessing is not required.
Riparian	Relating to or living or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater
Risk	The likelihood of an impact occurring, combined with the effect or consequence(s) of the impact on a receptor if it does occur.
Rochdale Envelope	The Rochdale Envelope is an acknowledged way of dealing with an application where details of a project have not been fully resolved by the time the application is submitted. The term is used to describe those elements of a scheme that have not yet been finalised, but yet can be accommodated within certain limits and parameters allowing the likely significant effects of a project to be presented in the Environmental Statement as a reasonable worst case. It also provides the opportunity to assess aspects of a development where the detailed design is to be developed post grant of a DCO and approved by the Local Planning Authority under a DCO Requirement .
Rosefield Substation (Project Substation)	A compound containing electrical equipment to enable connection to the National Grid Substation.
Scoping	An exercise undertaken pursuant to the EIA Regulations , to determine the environmental topics and environmental elements to be addressed within the Environmental Statement (ES) .

Scoping Boundary	The boundary considered to be the limits of the Proposed Development , as studied as part of the Scoping Report .
Scoping Opinion	The Scoping Opinion is the Secretary of State's written opinion as to the scope, and level of detail, of the information to be provided in the Environmental Statement.
Scoping Report	The Scoping Report is a report prepared by an applicant to provide the information required under the EIA Regulations to request a Scoping Opinion from the Secretary of State .
Secondary Mitigation	Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Environmental Statement .
Secretary of State (SoS)	In the case of the Proposed Development , the Secretary of State for Business, Energy, and Industrial Strategy (BEIS).
Setting	The surroundings within which a heritage asset is experienced and any element, which contributes to the understanding of its significance.
Significance	A measure of the importance or gravity of the effect defined by significance criteria specific to the environmental topic.
Significant Observed Adverse Effect Level (SOAEL)	The level above which significant adverse effects on health and quality of life occur as a result of noise or vibration. (see also: Significance).
Site	For the DCO Application , this is the land within the Order Limits that will be shown on the Works Plans .
Site Boundary	The maximum extent of land potentially required temporarily and/or permanently for the construction, operation and maintenance of the Proposed Development .

Site of Special Scientific Interest (SSSI)	A site statutorily notified under the Wildlife and Countryside Act 1981 (as amended) as being of special nature conservation or geological interest. Site of Special Scientific Interest (SSSIs) include Habitats , geological features, and landforms.
Site Waste Management Plan (SWMP)	A system or document for implementing, monitoring, and reviewing waste prevention measures.
Solar Photovoltaic (PV) Array	Linked collection of Solar PV Modules
Solar Photovoltaic (PV) Generating Station	Comprised of Solar PV Modules and Solar PV Mounting Structures
Solar Photovoltaic (PV) Modules	Panels comprised of photovoltaic cells beneath a layer of toughened glass that convert sunlight into electrical current.
Source Protection Zone (SPZ)	Areas which show the level of risk to the source of groundwater from contamination. SPZ 1 (Inner zone) is based on a 50 day travel time of pollutant to source with a 50 metres default minimum radius. SPZ2 (outer zone) is based on a 400 day travel time of pollutant to source with 250 or 500 metres minimum radius around the source depending on the amount of water abstracted. SPZ 3 (total catchment) area around a source within which all the groundwater ends up at the abstraction point.
Special Area of Conservation (SAC)	Areas of protected habitats and species as defined in the Habitats Directive .
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the EC Birds Directive (79/409/EEC) which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory Species .
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups,

	under natural conditions; most species are made up of subspecies or populations.
Study Area	The area around the Scoping Boundary within which impacts could occur and therefore within which specialist assessment is undertaken.
Statutory Consultation	The Planning Act 2008 (as amended) (PA 2008) requires an applicant to undertake public consultation in advance of submitting a Development Consent Order (DCO) application to the Secretary of State (SoS).
Statutory Consultees	Planning law prescribes circumstances where the Secretary of State is required to consult specified bodies prior to a decision being made on an application. Includes bodies such as: Environment Agency, Highways England, Historic England, Natural England, Parish Councils, among others.
Strings	Group of solar PV modules which are fixed to a mounting structure.
Survey Area	The area within which an environmental survey is undertaken.
Sustainable Drainage System (SUDS)	A collection of water management practices that aim to align modern drainage systems with natural water processes.
Switchgear	Combination of electrical disconnect switches, fuses or circuit breakers to control, protect and isolate electrical equipment.
Temporary Works	Those parts of the works that allow or enable construction of the Proposed Development and which do not remain in place at the completion of the works.
Temporary Construction Laydown Area	Temporary secure storage area that is associated with the construction works of the Proposed Development.
Tertiary Mitigation	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered

	to be standard practices used to manage commonly occurring environmental Effects .
Transect	Survey technique for surveying birds, wintering birds and breeding birds, with surveyors walking pre-defined routes.
Transformer	A static piece of apparatus with two or more windings which, by electromagnetic induction, transforms a system of alternating voltage and current into another system of voltage and current usually of different values and at the same frequency for the purpose of transmitting electrical power.
Tributaries	Smaller watercourses which drain to a large watercourse.
Visual Amenity	Overall enjoyment of a particular area, surroundings, or views in terms of people's activities - living, recreating, travelling through, visiting, or working.
Visual Effect	An effect on specific views and on the general visual amenity experienced by people.
Visual Receptor	Heritage assets, individuals and / or defined groups of people, that have the potential to be affected by the Proposed Development .
Vulnerability	In the context of the 2014 EU Directive, the term refers to the 'exposure and resilience' of the Proposed Development to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity, and magnitude of impact.
Waste	Any substance or object which the holder discards or intends or is required to discard.
Waste Hierarchy	<p>A guiding theme for waste policy at all levels. Establishes an order of preference for the management of waste, to maximise the prevention of waste, whilst minimising disposal. The Waste (Management) Hierarchy is established in the Waste Framework Directive (Directive 2008/98/EC), and prescribes the following:</p> <ul style="list-style-type: none"> • Prevention (Most preferred option)

	<ul style="list-style-type: none"> • Preparing for reuse • Recycling • Recovery • Disposal (Least preferred option)
Water Abstractions	The process of taking water from any source, either temporarily or permanently, for flood control or to obtain water for, for example, irrigation.
Water Quality	The chemical, physical, and biological characteristics of water based on the standards of its usage
Wildlife and Countryside Act 1981 (as amended)	The principal piece of UK legislation relating to the protection of wildlife.
Zone of Influence (ZOI)	The areas / resources that may be affected by the changes caused by activities associated with the Proposed Development .
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land within which, the Proposed Development is theoretically visible.

Abbreviations

Abbreviations	Definition
AC	Alternating Current
ADMS	Advances Dispersion Modelling Software
AIL	Abnormal Indivisible Load
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
ATC	Automatic Traffic Count
BESS	Battery Energy Storage System
BGS	British Geological Society
BMV	Best and Most Versatile agricultural land
BoSS	Balance of Solar System
BSI	British Standards Institution
BGS	British Geological Survey
CCC	Committee on Climate Change
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CWTP	Construction Workers Travel Plan
dB	Decibel
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DLL	District Level Licensing
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges

DTM	Digital Terrain Model
EA	Environment Agency
EC	European Commission
EcIA	Ecological Impact Assessment
eDNA	Environmental DNA
EIA	Environmental Impact Assessment
EPUK	Environmental Protection UK
ERP	Emergency Response Plan
ES	Environmental Statement
EU	European Union
FRA	Flood Risk Assessment
GCN	Great Crested Newt
GIS	Geographic Information Systems
GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GWDTE	Ground Water Dependent Terrestrial Ecosystem
H&S	Health and Safety
H&SP	Health and Safety Plan
Ha	Hectare
HDD	Horizontal Directional Drill / Drilling
HER	Historic Environment Record
HIA	Health Impact Assessment
HM	His Majesty's
HMG	His Majesty's Government
HPI	Habitats of Principle Importance
HRA	Habitat Regulations Assessment
HSE	Health and Safety Executive
HSI	Habitat Suitability Index
HVAC	Heating, Ventilation and Cooling
IAQM	Institute of Air Quality Management
ICE	Inventory of Carbon and Energy

ICSS	Integrated Control and Safety Systems
IEMA	Institute of Environmental Management and Assessment
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
kV	Kilovolt
LA₉₀ dB	Background Sound
LA_{eq, T} dB	Equivalent Continuous Sound Level
LAQM	Local Air Quality Management
LCA	Landscape Character Area
LDP	Local Development Plan
LI	Landscape Institute
LLFA	Lead Local Flood Authority
L_{max}	Highest Measured Sound Pressure Level
L_{min}	Lowest Measured Sound Pressure Level
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
MA&D	Major Accidents and Disasters
MAGIC	Multi Agency Geographic Information for the Countryside
MAH	Major Accident Hazard
MPP	Materials Management Plan
MSA	Mineral Safeguarding Area
MS	Method Statement
MW	Megawatts
MWp	Mega Watt Peak
N/A	Not Applicable
NCA	National Character Area
NE	Natural England
NERC	Natural Environment Research Council

NNR	National Nature Reserve
NO₂	Nitrogen dioxide
NOEL	No Observed Effect Level
NO_x	Nitrogen oxides
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
ONS	Office for National Statistics
OS	Ordnance Survey
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PM	Particulate Matter
PM₁₀	Particulate Matter with an aerodynamic diameter of less than 10 micrometres
PM_{2.5}	Particulate Matter with an aerodynamic diameter of less than 2.5 micrometres
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidance
PRA	Preliminary Risk Assessment
PRoW	Public Right of Way
PV	Photovoltaic
PWS	Private Water Supplies
RBMP	River Basin Management Plan
RICS	Royal Institute of Chartered Surveyors
RIGS	Regionally Important Geological Site
RSPB	Royal Society for the Protection of Birds
SAB	SuDS Approving Body

SAC	Special Area of Conservation
SOAEL	Significant Observed Adverse Effect Level
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SWMP	Site Waste Management Plan
SuDS	Sustainable Drainage System
TAN	Technical Advice Note
tCO₂e	Tonnes of Carbon Dioxide Equivalent
TGN	Technical Guidance Note
TMP	Traffic Management Plan
TPO	Tree Preservation Order
UK	United Kingdom
UKCP	UK Climate Projections
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UXO	Unexploded Ordnance
W	Watts
WHO	World Health Organisation
WSI	Written Scheme of Investigation
WTN	Waste Transfer Note
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility



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